

EMERSUB 16, LLC

2024 OPERATIONS, MAINTENANCE, AND MONITORING REPORT – HYDRAULIC CONTAINMENT AND TREATMENT SYSTEM

FORMER KOP-FLEX PROPERTY
7555 HARMANS ROAD, HANOVER, MARYLAND
BROWNFIELD MASTER INVENTORY #MD0286

AUGUST 01, 2025





2024 OPERATIONS, MAINTENANCE, AND MONITORING REPORT – HYDRAULIC CONTAINMENT AND TREATMENT SYSTEM

FORMER KOP-FLEX PROPERTY
7555 HARMANS ROAD, HANOVER,
MARYLAND
BROWNFIELD MASTER INVENTORY
#MD0286

EMERSUB 16, LLC

PROJECT NO.: 31405608.010
DATE: AUGUST 01, 2025

WSP
SUITE 300
13530 DULLES TECHNOLOGY DRIVE
HERNDON, VA 20171

TEL.: +1 703 709-6500
FAX: +1 703 709-8505
WSP.COM



TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
1 INTRODUCTION.....	3
1.1 Purpose of this Report.....	3
1.2 Summary of Current Groundwater Conditions	3
1.3 System Description.....	3
1.4 Response Action Objectives.....	4
1.5 Cleanup Standards.....	4
2 SYSTEM OPERATION AND PERFORMANCE MONITORING	6
2.1 System Runtime and Downtime.....	6
2.2 Operational and Process Monitoring Data	7
2.2.1 Overview of Treatment System Operation.....	7
2.2.2 Treatment System Monitoring and Performance.....	8
2.3 System Maintenance	10
2.3.1 Routine Maintenance Activities	10
2.3.2 Non-Routine Maintenance Activities	11
2.4 Re-Development of Shallow Recovery Well RW-3S.....	12
2.5 Waste Management.....	13
2.5.1 RW-3S Re-Development Water	13
2.5.2 Routine System Maintenance Activities.....	13
3 GROUNDWATER MONITORING	14
3.1 Groundwater Monitoring Activities	14
3.1.1 Groundwater Levels	14
3.1.2 Groundwater Samples	14
3.2 Groundwater Monitoring Results and Evaluation.....	15
3.2.1 Groundwater Levels.....	15
3.2.2 Groundwater Quality	17



4	CONCLUSIONS	21
4.1	Assessment of System Operation and Contaminant Containment and Recovery	21
4.2	Progress toward MDE VCP Certificate of Completion	22
4.3	Planned Activities for 2025.....	23
	REFERENCES	24
	ACRONYMS	25

FIGURES

- FIGURE 1 HYDRAULIC CONTAINMENT SYSTEM AND MONITORING WELL LOCATIONS
- FIGURE 2 HISTORICAL INFLUENT CONCENTRATIONS
- FIGURE 3 CUMULATIVE MASS REMOVAL
- FIGURE 4 GROUNDWATER RECOVERY WELL RESULTS (2024)
- FIGURE 5 VOC AND 1,4-DIOXANE CONCENTRATIONS IN RECOVERY WELL DISCHARGE (2017 THROUGH 2024)
- FIGURE 6 WATER TABLE CONTOUR MAP, PUMPING CONDITIONS (MAY 2024)
- FIGURE 7 PIEZOMETRIC SURFACE CONTOUR MAP FOR THE LOWER PORTION OF THE SHALLOW ZONE OF THE LOWER PATAPSCO AQUIFER (MAY 2024)
- FIGURE 8 POTENTIOMETRIC SURFACE CONTOUR MAP FOR THE DEEP ZONE OF THE LOWER PATAPSCO AQUIFER (MAY 2024)
- FIGURE 9 WATER TABLE CONTOUR MAP, PUMPING CONDITIONS (NOVEMBER 2024)
- FIGURE 10 PIEZOMETRIC SURFACE CONTOUR MAP FOR THE LOWER PORTION OF THE SHALLOW ZONE OF THE LOWER PATAPSCO AQUIFER (NOVEMBER 2024)
- FIGURE 11 POTENTIOMETRIC SURFACE CONTOUR MAP FOR THE DEEP ZONE OF THE LOWER PATAPSCO AQUIFER (NOVEMBER 2024)
- FIGURE 12 HYDROGRAPHS OF WELLS SCREENED IN THE SHALLOW ZONE OF THE LOWER PATAPSCO AQUIFER (2016-2024)
- FIGURE 13 HYDROGRAPHS OF WELLS SCREENED IN THE DEEP ZONE OF THE LOWER PATAPSCO AQUIFER (2016-2024)
- FIGURE 14 SAMPLING RESULTS FOR THE MONITORING WELLS SCREENED IN THE SHALLOW ZONE OF THE LOWER PATAPSCO AQUIFER (2024)
- FIGURE 15 SAMPLING RESULTS FOR THE MONITORING WELLS SCREENED IN THE DEEP ZONE OF THE LOWER PATAPSCO AQUIFER (2024)
- FIGURE 16 1,1-DCA ISO-CONCENTRATIONS DURING GROUNDWATER EXTRACTION FROM THE SHALLOW PORTION OF THE LOWER PATAPSCO AQUIFER (NOVEMBER 2024)



FIGURE 17	1,1-DCE ISO-CONCENTRATIONS DURING GROUNDWATER EXTRACTION FROM THE SHALLOW PORTION OF THE LOWER PATAPSCO AQUIFER (NOVEMBER 2024)
FIGURE 18	1,4-DIOXANE ISO-CONCENTRATIONS DURING GROUNDWATER EXTRACTION FROM THE SHALLOW PORTION OF THE LOWER PATAPSCO AQUIFER (NOVEMBER 2024)
FIGURE 19	1,1-DCE ISO-CONCENTRATIONS DURING GROUNDWATER EXTRACTION FROM THE DEEPER PORTION OF THE LOWER PATAPSCO AQUIFER (NOVEMBER 2024)
FIGURE 20	1,4-DIOXANE ISO-CONCENTRATIONS DURING GROUNDWATER EXTRACTION FROM THE DEEPER PORTION OF THE LOWER PATAPSCO AQUIFER (NOVEMBER 2024)
FIGURE 21	HISTORICAL 1,1-DCA, 1,1-DCE, AND 1,4-DIOXANE CONCENTRATION PLOTS FOR THE IN-PLUME MONITORING WELLS SCREENED IN THE SHALLOW ZONE OF THE LOWER PATAPSCO AQUIFER (2016-2024)
FIGURE 22	HISTORICAL 1,1-DCA, 1,1-DCE, AND 1,4-DIOXANE CONCENTRATION PLOTS FOR THE MONITORING WELLS SCREENED IN THE DEEP ZONE OF THE LOWER PATAPSCO AQUIFER (2016-2024)

TABLES

TABLE 1	SUMMARY OF SYSTEM DISCHARGE AND MASS REMOVAL
TABLE 2	SUMMARY OF RECOVERY WELL FLOW RATES AND VOLUMES
TABLE 3	GROUNDWATER TREATMENT SYSTEM - 2024 RESULTS FOR COMPOUNDS OF CONCERN
TABLE 4	2024 RECOVERY WELL SAMPLING RESULTS
TABLE 5	HISTORICAL RECOVERY WELL SAMPLING RESULTS
TABLE 6	MONITORING WELL AND RECOVERY WELL PIEZOMETER CONSTRUCTION INFORMATION
TABLE 7	HISTORICAL WATER LEVEL MEASUREMENTS IN MONITORING WELLS AND RECOVERY WELL PIEZOMETERS



TABLE 8	PREVIOUS AND CURRENT DEPLOYMENT DEPTHS FOR HYDRASLEEVE SAMPLERS
TABLE 9	FIELD WATER QUALITY MEASUREMENTS (MAY 2024)
TABLE 10	FIELD WATER QUALITY MEASUREMENTS (NOVEMBER 2024)
TABLE 11	2024 MONITORING WELL SAMPLING RESULTS

APPENDICES

APPENDIX A	HISTORICAL SYSTEM SAMPLING RESULTS
APPENDIX B	LABORATORY REPORTS FOR SYSTEM SAMPLING
APPENDIX C	LABORATORY REPORTS FOR GROUNDWATER MONITORING
APPENDIX D	HISTORICAL MONITORING WELL SAMPLING RESULTS

EXECUTIVE SUMMARY

WSP USA Inc. (WSP) has prepared this Operations, Maintenance, and Monitoring (OM&M) Report to evaluate the performance of the groundwater corrective measures implemented at the Former Kop-Flex property located at 7555 Harmans Road in Hanover, Maryland (the Site). This report describes the operation (including maintenance activities) and effectiveness of the hydraulic containment and treatment system (the System) in mitigating groundwater quality impacts to the aquifer system for the reporting period of January 1, 2024, through December 31, 2024. WSP is submitting this report on behalf of EMERSUB 16, LLC, a subsidiary of Emerson Electric Co. The Site is currently owned by Catalent Harmans Road, LLC, a subsidiary of Catalent Cell & Gene Therapy (Catalent).

The following Response Action Objectives (RAOs) with respect to groundwater were previously developed for the Site and continue to be used to gauge progress toward the protection of human health and the environment (WSP 2015a):

- controlling migration of groundwater with constituents of concern (COCs) exceeding applicable human health criteria beyond the property boundary of the Site
- reducing concentrations of COCs in the aquifer system at the Site
- restricting groundwater use on the Site to prevent potential exposure to COCs present at concentrations above applicable human health criteria

As specified in the May 2016 *Final Decision and Response to Comments* document issued by U.S. Environmental Protection Agency, the Corrective Action Objective involves the restoration of the groundwater at the Site to the maximum contaminant levels promulgated under 40 CFR Part 141.

The System runtime was approximately 78% during the 2024 calendar year, which is above the historical average runtime per year of 73%. However, due to reduced operation, a shallow recovery well (RW-3S) and a deep recovery well (RW-2D), the volume of treated groundwater discharged (19.1 Mega gallons [MGal]) and the COC mass removal (73.1 pounds [lbs]) in 2024 were below their historical annual averages (26 MGal and 100 lbs). RW-2D, which represents 45% of the total flow, was repaired in December 2024; therefore, the volume of treated groundwater and COC mass removal are expected to improve in 2025.

Based on the 2024 operational data, the System processed approximately 19.1 million gallons of groundwater extracted from the recovery wells. Since System start up in March 2017 through the end of December 2024, the System has treated over 201 million gallons of water. An estimated 58 lbs of the primary Site-related volatile organic compounds (VOCs) – 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA), and 1,1-dichloroethene (1,1-DCE) and 15.1 lbs of 1,4-dioxane were recovered from the aquifer during 2024. The removal efficiency of the resin media averaged 99.9% for VOCs and 98.5% for 1,4-dioxane. An estimated total of approximately 557 lbs of Site-related VOCs and 221 lbs of 1,4-dioxane have been removed since the initiation of corrective measures through the end of the 2024 calendar year.

Analysis of the treated water (*i.e.*, effluent) samples during 2024 indicated non-detect concentrations of VOCs, except for a single sample collected in July 2024 that contained low concentrations of multiple VOCs at a combined concentration of 4.79 micrograms per liter ($\mu\text{g/L}$). 1,4-dioxane was measured in 2024 effluent samples at non-detect to low levels, with detected concentrations ranging from 1.4 $\mu\text{g/L}$ to 7.1 $\mu\text{g/L}$. There were no exceedances of the National Pollutant Discharge Elimination System (NPDES) discharge permit limits or the Site-specific 1,4-dioxane cleanup level during the reporting period.

Groundwater elevations measured in May and November 2024 were consistent with historical measurements and indicate that groundwater in the shallow zone of the Lower Patapsco Aquifer (LPA) flows to the west and northwest. The overall hydraulic gradient indicates that groundwater flow is generally from areas of highly impacted groundwater towards the shallow pumping wells west of the southern building onsite. The deep (leaky confined) zone of the LPA flows generally south towards the location of the deep pumping wells at the property boundary. Areas of drawdown located in the shallow zone and the deep zone of the LPA were observed in response to pumping. These drawdown areas are evidence of an effective capture zone surrounding the pumping wells over a localized area downgradient of the identified contaminant sources.

Overall, the 2024 groundwater monitoring data indicates that the RAOs listed above are being achieved, and System operations have resulted in declining concentrations of several Site-related VOCs and 1,4-dioxane in groundwater. The

continued operation of the System is deemed necessary during 2025 due to concentrations of VOCs and 1,4-dioxane remaining above the Cleanup Standards. The long-term groundwater monitoring program will continue in 2025 to evaluate the achievement of the groundwater RAOs.

1 INTRODUCTION

1.1 PURPOSE OF THIS REPORT

On behalf of EMERSUB 16, LLC, a subsidiary of Emerson Electric Co., WSP USA Inc. (WSP) is submitting this Annual Operations, Maintenance, and Monitoring (OM&M) Report describing the activities conducted during the 2024 reporting period (January 1 through December 31, 2024) as part of the groundwater response action at the Former Kop-Flex property located at 7555 Harmans Road in Hanover, Maryland (the Site). The Site is identical to the area described as the “Facility” in the U.S. Environmental Protection Agency (USEPA) Administrative Order on Consent (Consent Order), Docket No. Resource Conservation and Recovery Act (RCRA)-03-2016-0170 CA, Section IV.C.3. This report is being submitted in accordance with Section 14.2 of the October 2015 Response Action Plan (RAP), Revision 2 (WSP 2015a), which requires the submission of OM&M reports to the Maryland Department of the Environment (MDE) and USEPA on an annual basis¹. The annual OM&M Report for calendar year 2023 was submitted to the USEPA and MDE in August 2024 (WSP 2024a).

1.2 SUMMARY OF CURRENT GROUNDWATER CONDITIONS

The aquifer at the Site is comprised of the Lower Patapsco Aquifer (LPA) of the Atlantic Coastal Plain aquifer system. The primary water-bearing zones in the LPA beneath the facility consist of a shallow (unconfined to semi-confined) zone and deep (leaky confined) zone which are separated by a confining unit of variable thickness. The direction of groundwater movement in the shallow zone mimics the general surface topography and is largely influenced by local surface water features, with flow to the north and west toward Stony Run. Groundwater flow in the deep zone is to the south and east, consistent with the regional groundwater flow in the LPA in this portion of the coastal plain aquifer system. Additional details regarding the Site’s hydrogeologic setting are provided in the October 2015 RAP, Revision 2 (WSP 2015a) and subsequent amendments to this document.

Groundwater sampling results confirm the existence of Site-related contaminants in both the shallow and deep portions of the LPA beneath the former Kop-Flex property. The Site-related volatile organic compounds (VOCs) in groundwater consist of 1,1,1-TCA and its degradation products 1,1-DCA and (1,1-DCE; and other chlorinated ethenes including *cis*-1,2-dichloroethene (*cis*-1,2-DCE), trichloroethene (TCE), and tetrachloroethene (PCE). Additionally, 1,4-dioxane, an additive historically used in commercial formulations of 1,1,1-TCA solvents, is present in groundwater.

The installation of the hydraulic containment and treatment system (the System) discussed in this report was completed in February 2017 to control the offsite migration of contaminated groundwater in both zones of the LPA. The contaminant plume in the deep confined portion of the LPA extends offsite to the south-southeast from the former Kop-Flex property. Groundwater conditions in the off-property area are described in a separate offsite groundwater monitoring report.

1.3 SYSTEM DESCRIPTION

Pursuant to the requirements under the USEPA Consent Order (Section VI.B.1.a.) and MDE RAP, a System has been installed at the Site to control the migration of chlorinated VOCs (CVOCs) and 1,4-dioxane in groundwater. The System involves the continuous extraction and treatment of affected groundwater at the Site. Groundwater is extracted from a network of three shallow recovery wells (RW-1S through RW-3S), screened within the shallow zone of the LPA, and two deep recovery wells (RW-1D and RW-2D), screened in the deep zone (Figure 1). The extracted groundwater is routed via underground piping to the System building. Treatment equipment is comprised of a flow equalization (EQ) tank to regulate flow of water through the treatment components, bag filters for suspended solids removal, synthetic resin (AMBERSORB™

¹ Addenda to the approved RAP included the following: Addendum #1 (dated February 24, 2016) involving the deep groundwater extraction wells and treatment system; Addendum #2 (dated April 15, 2016) regarding the management of stormwater with excavation areas created as part of the property re-development; and Addendum #3 (dated June 23, 2016) involving the sub-grade water conveyance piping from the extraction wells to the treatment building.

560) for the removal of CVOCs and 1,4-dioxane, a metering pump for the addition of caustic soda for pH adjustment of the water, and two parallel in-line aerators to increase dissolved oxygen levels in the water. The treated water is discharged to the nearby stream, Stony Run, in accordance with the requirements specified in National Pollutant Discharge Elimination System (NPDES) Permit MD 0069094 (the Permit) issued by the MDE. Samples of the treated effluent are collected monthly for the analysis of VOCs and other parameters (including 1,4-dioxane), in accordance with the Permit and RAP. The continuous, full-scale operation of the System began on March 10, 2017.

There are two synthetic resin vessels, identified as T-1100 and T-1200, which are arranged in series. They operate in a lead-lag configuration until the lead vessel reaches its adsorption capacity for the contaminants, which is based on the volume of water processed by the vessel. When the lead vessel has processed the pre-determined volume of water, the lag vessel is switched into the lead position, and the contaminant-loaded, former lead vessel is temporarily taken out of operation for regeneration. The loaded vessel is regenerated onsite using steam process equipment, including a boiler and steam superheater, to remove the adsorbed constituents from the resin. The steam containing the desorbed constituents is discharged to the atmosphere through the steam reheater. Once the regeneration process is completed, the regenerated vessel is returned to operation as the lag vessel, and the cycle is repeated. Steam condensate produced during the regeneration process and boiler blowdown water are routed to the flow EQ tank and combined with influent groundwater for treatment through the System. Softened water used to quench (cool) and rinse the regenerated resin is also pumped to the flow EQ tank to combine with groundwater for treatment.

1.4 RESPONSE ACTION OBJECTIVES

Since impacted groundwater poses a risk to human health and the environment, the goals for the corrective measures are focused on controlling and mitigating the groundwater contaminants in the LPA. The following Response Action Objectives (RAOs) with respect to groundwater were previously developed for the Site under the MDE Voluntary Cleanup Program (VCP) RAP and continue to be used to gauge the performance and effectiveness of the response action/corrective measure (WSP 2015a):

- controlling migration of groundwater with constituents of concern (COCs) – 1,1,1-TCA, 1,1-DCA, 1,1 -DCE, chloroethane, TCE, *cis*-1,2-DCE, and 1,4-dioxane - exceeding applicable human health criteria beyond the property boundary of the Site
- reducing concentrations of COCs in the aquifer system at the Site
- restricting groundwater use on the Site to prevent potential exposure to COCs present at concentrations above applicable human health criteria.

The Corrective Action Objective (CAO) for is specified in Section IV.A of the Statement of Basis, which is enclosed in the May 2016 Final Decision and Response to Comments (FDRTC) document prepared by the USEPA. This CAO involves the restoration of groundwater at the Site to the maximum contaminant levels (MCLs) promulgated under 40 CFR Part 141 – National Primary Drinking Water Regulations. Until sufficient data is collected to demonstrate achievement of this CAO, activities must be implemented to control (1) exposure to COCs in groundwater and (2) migration of COC-impacted groundwater. The USEPA CAO is generally consistent with the MDE RAOs; however, the USEPA CAO does require the site-wide attainment of the applicable numerical groundwater quality criteria for the groundwater.

1.5 CLEANUP STANDARDS

The cleanup levels for the COCs detected in the groundwater are based on the MDE Cleanup Standards (Cleanup Standards) for Type I/II Aquifers, except as noted for 1,4-dioxane, and are listed in the table on the following page. The cleanup criterion for 1,4-dioxane, which is not included in the MDE Cleanup Standards, was determined from an evaluation of calculated risk-based concentrations in groundwater. Based on this evaluation, a property-specific cleanup criterion of 15 micrograms per liter ($\mu\text{g/L}$) was established for 1,4-dioxane at the Site, whereas the action level for 1,4-dioxane in the offsite area is 4.6 $\mu\text{g/L}$.

Overall, the Cleanup Standards are identical to the MCLs promulgated in the National Primary Drinking Water Regulations. The exceptions are for the COCs chloroethane, 1,1-DCA, and 1,4-dioxane, which are not included in the current list of organic chemicals in the regulations.

Groundwater Cleanup Standards	
Compound	Cleanup Standard (µg/L)
1,1,1-TCA	200
1,1-DCA	2.8 ²
1,1-DCE	7
1,2-DCA	5
Chloroethane	2,100 ³
TCE	5
<i>cis</i> -1,2-DCE	70
1,4-dioxane	15

² The standard for 1,1-DCA reflects the current numerical criterion promulgated by MDE, which was updated in October 2018.

³ The standard for chloroethane reflects the current numerical criterion promulgated by MDE, which was updated in October 2018.

2 SYSTEM OPERATION AND PERFORMANCE MONITORING

2.1 SYSTEM RUNTIME AND DOWNTIME

During the reporting period from January 1, 2024, through December 31, 2024, the System operated approximately 78% of the time (Table 1). The System's 2024 runtime efficiency was slightly above the historical average of 73%. Some downtime was related to the completion of routine maintenance activities, such as changing bag filters, cleaning strainers, testing the high-sump alarm, or the replacement of System components, in accordance with WSP's Operations and Maintenance (O&M) Manual (WSP 2018). Additional non-routine System shutdowns associated with unplanned events and System maintenance occurred as described below.

- On January 31, 2024, the System was shut down to replace the P-100A variable frequency/flow drive (VFD) transfer pump, which transfers water from the EQ tank to the bag filters. The System was restarted on February 1, 2024.
- The System was shut down on February 14, 2024, due to a delayed delivery of caustic solution, which is added to the treated water prior to discharge to raise the pH to a level within the NPDES permit-specified range (6.5 to 8.5 standard units [SU]). The System was restarted on February 15, 2024, after the caustic was replenished.
- On March 1, 2024, the EQ tank's transfer pump failed to operate. Maintenance was performed on the pump, and the System was restarted on March 2, 2024.
- A tripped breaker from the compressor shut off power to the System on the night of June 27, 2024. The System was restarted the following morning (June 28, 2024) after resetting the breaker and checking the electrical connections.
- The System was shut off twice in 2024 due to water leaks in the steam boiler: July 11 and December 23, 2024. The previous water leaks have been associated with damage to the steam boiler components that impact the generation of steam to regenerate synthetic resin; thus, the System was shut off until further evaluation of the boiler could occur. Tate Engineering Systems, Inc. (Tate), WSP's boiler mechanical maintenance subcontractor, identified ruptured boiler fire tubes in the steam boiler as the source of the leaks. The System remained offline until the ruptured boiler tubes were replaced on August 17, 2024, and January 17, 2025.
- An alarm shutdown occurred on August 19, 2024, due to overheating of electrical components in the control panel, and subsequent electrical surge. The System was restarted on August 29, 2024, after replacing the overheated electrical components and installing a ventilation fan in the control panel box to reduce the potential for future overheating.
- The System experienced two alarm shutdowns each lasting less than 24 hours on September 1 and 3, 2024, triggered by pH at the pre-discharge monitoring point falling outside the pH set points (6.5 to 8.5 SU). Upon inspection of the pH adjustment system, two malfunctions were identified: a malfunction with the anti-siphoning valve caused caustic to siphon, and a leak in the caustic tubing reduced the effective caustic dose added to the water line. The roller tube assembly and tubing were replaced on September 4, 2024.
- The System shut down on September 8, 2024, due to a low effluent flow alarm. The low effluent flow resulted from the temporary reduction in the flow of groundwater extraction with both deep recovery wells (RW-1D and RW-2D) offline, thereby reducing the treated water through the System to less than the low effluent flow alarm set point (15 gallons per minute [gpm]). RW-1D was restarted, and the flow increased to above the set point.
- An alarm triggered a System shutdown for less than 24 hours on September 15, 2024, due to a malfunction with the quench (rinse and cooling) step of the synthetic resin regeneration process. The System was restarted on September 16, 2024, after restarting the quench step.
- On September 24, 2024, the System shutdown due to the compressor failure. The System was restarted on October 2, 2024, after replacing the air compressor.
- The System shutdown on October 21, 2024, due to blown fuses in the steam boiler's control panel. An electrical short-circuit on the boiler skid's transformer was identified, and a replacement transformer was ordered. Following installation and inspection of the replacement transformer, the System was restarted on October 28, 2024.

During 2024, operations of individual recovery wells were disrupted due to unplanned maintenance events, as described below:

- On May 20, 2024, the groundwater extraction pump at RW-2D stopped working due to an overheated fuse in the electrical panel. An investigation revealed that the electrical load reactor, which is used to regulate the power/voltage between the VFD and submersible pump motor, was damaged along with the pump's VFD. WSP reviewed the electrical design for the System and determined the load reactor for RW-2D should be increased to accommodate the current loading and prevent recurrences of this issue. The load reactor was upsized accordingly, and the groundwater extraction pump in RW-2D was replaced in October 2024. However, the replacement pump failed to operate. The pump was pulled from the well on December 16, 2024, and it was determined that the motor in the replacement pump was not working. Therefore, another replacement pump was installed on that date, and RW-2D operated for the remainder of the year (Table 2).
- On August 27, 2024, RW-1D stopped operating due to electrical issues with the VFD. Operation resumed on September 9, 2024, after completing repairs to the electrical components.
- Groundwater extraction from RW-3S resumed in August 2024, after the extraction well had been shut down since September 2022 due to a reduction in performance and decrease in the well's yield. WSP completed rehabilitation of the well in July 2024, including re-development of the well, and jetting of the water conveyance line from RW-3S in August 2024. Following the redevelopment and conveyance line flushing, the groundwater extraction rate at RW-3S initially improved with extraction rates ranging from 1.5 to 3.2 gpm, but after 3 months of operation, extraction rates diminished to their pre-development rates of less than 1.5 gpm. RW-3S was briefly turned off in November 2024, then restarted at a lower speed (less than 1 gpm) to avoid pumping the well dry.

2.2 OPERATIONAL AND PROCESS MONITORING DATA

2.2.1 OVERVIEW OF TREATMENT SYSTEM OPERATION

During System operation, water samples were regularly collected for chemical analysis to monitor and evaluate VOC and 1,4-dioxane concentrations in the System influent and effluent. The influent and effluent VOC and 1,4-dioxane concentrations for 2024 are provided in Table 3. Historic influent results since the System startup are provided in Appendix A – Table A-1 (influent), and Appendix A – Table A-2 (effluent) which includes the historic effluent results for all parameters analyzed in accordance with the NPDES Permit. The quarterly total VOC concentrations for the System influent were generally consistent during the reporting period, with the highest System influent total VOCs concentration (421.4 µg/L) detected in the sample collected during October 2024, and the lowest total VOCs concentration (332.3 µg/L) detected in the sample collected during April 2024 (Table 3). The maximum 1,4-dioxane concentration (117 µg/L) was detected in the sample collected during April 2024, and the lowest concentration (75.3 µg/L) was detected in July 2024. Since 2023, the concentrations of total VOCs appear to be increasing in the System influent, while the concentrations of 1,4-dioxane appear to have generally stabilized (Figure 2, Appendix A – Table A-1). Both the total VOCs and 1,4-dioxane concentrations in the System influent remain below their historical maximum concentrations.

Analysis of the treated water (i.e., effluent) indicated non-detect concentrations of VOCs, except for a sample collected in July 2024 that contained a very low concentration of 1,1-DCE (2.4 µg/L), 1,1-DCA (0.67 µg/L; estimated), and other non-COC compounds (1,2-dichlorobenzene [DCB], 1,3-DCB, chloroethane) at 1.72 µg/L combined. The data for 1,4-dioxane in the 2024 effluent samples indicated non-detect to low levels for this compound, with detected concentrations ranging from 1.4 µg/L to 7.1 µg/L (Table 3). There were no exceedances of the Site-specific 1,4-dioxane cleanup level of 15 µg/L in any of the treated effluent samples during 2024.

The System operated under the NPDES Permit regarding the discharge of the treated water to Stony Run, with the most recent renewal effective on November 1, 2023. Effluent samples were collected in 2024 for the analysis of VOCs, 1,4-dioxane, and other parameters, in accordance with the effective Permit. The analytical results for all samples indicate compliance with the effluent limitations specified in the Permit (Table 3 and Appendix A - Table A-2).

Discharge limits for total residual chlorine (TRC) of 0.011 milligrams per liter (mg/L) for the monthly average and 0.019 mg/L for the daily maximum were added in the NPDES Permit in the 2023 renewal. However, given the minimum practical quantification level for TRC is 0.10 mg/L, MDE only considers measured TRC values ≥ 0.10 mg/L to be an exceedance of the

new Permit limitations. Field analysis of the 2024 monthly effluent samples indicated non-detect concentrations of TRC except for the samples collected in May 2024 (0.02 mg/L, estimated) and December 2024 (0.07 mg/L, estimated), which were less than the concentration MDE considers a Permit exceedance (0.10 mg/L; Appendix A – Table A-2).

Total copper concentrations exceeded both the monthly average (9 µg/L) and daily maximum (13 µg/L) values in the October 2024 effluent sample (16 µg/L) and exceeded only the monthly average in the December 2024 effluent sample (12.9 µg/L; Appendix A – Table A-2). WSP submitted written notifications to MDE following each exceedance on November 1, 2024 and January 7, 2025 (WSP 2024b and 2025a). Prior to the October 2024 exceedance, copper concentrations in the monthly effluent samples from startup in 2017 through October 2024 met the permit limits. Therefore, WSP initiated an investigation of the potential causes for the October and December 2024 exceedances in the first quarter of 2025. The investigation activities, findings, and planned activities were reported to MDE on June 2, 2025 (WSP 2025b) and will be summarized in the 2025 annual OM&M Report.

2.2.2 TREATMENT SYSTEM MONITORING AND PERFORMANCE

The System treatment equipment performance was monitored by collecting and analyzing influent and effluent water samples from in-line sample ports located at the treatment building. The System effluent samples also fulfilled the monitoring requirements specified in the Permit. The samples were analyzed for VOCs using either EPA SW-846 Test Method 8260D (influent samples) or EPA Method 624.1 (effluent samples). Analysis of 1,4-dioxane was performed using modified EPA SW-846 Test Method 8260B with Selected Ion Monitoring (SIM) for influent samples and EPA Method 624.1 for effluent samples. Lab analysis was conducted by the Phase Separation Science, Inc. laboratory located in Catonsville, Maryland.

The historical VOC and 1,4-dioxane results for the System influent and effluent samples are summarized in Appendix A – Tables A-1 and A-2. Certified laboratory analytical reports for the January 2024 through December 2024 influent and effluent samples are included in Appendix B. The total VOC concentrations in the influent ranged from 332.6 µg/L (April 2024) to 421.4 µg/L (October 2024). The 1,4-dioxane concentrations in the influent ranged from 75.3 µg/L (July 2024) to 117 µg/L (April 2024). Influent VOC and 1,4-dioxane results were compared to the Cleanup Standards, as stated in Section 1.5 of this document. Based on the analytical results, 1,1-DCA, 1,1-DCE, and 1,4-dioxane were the only constituents detected above their respective Cleanup Standard in the influent samples. Other CVOCs detected in the System influent, albeit not above the Cleanup Standards (where promulgated), included 1,1,1-TCA, 1,2-DCA, chloroethane, TCE, *cis*-1,2-DCE, and vinyl chloride. For the non-exceeding COCs, 1,1,1-TCA was detected at the highest concentration in the influent samples, with the chlorinated ethenes TCE, *cis*-1,2-DCE, and vinyl chloride and 1,2-DCA present at low concentrations (< 5 µg/L).

Figure 2 plots the historical concentrations of total VOCs and 1,4-dioxane in the System influent from start-up (March 2017) through the end of 2024. This plot shows a noticeable decrease in the influent concentrations during the initial 6 months of operation. After this period, there is a slight increase in VOC concentrations from late 2017 through the first half of 2018, while the 1,4-dioxane levels exhibited a gradual decreasing trend. Total VOC concentrations have gradually decreased since the fourth quarter of 2018, with the rate of change getting smaller each year (*i.e.*, concentrations appear to be reaching relatively stable levels). Based on the System supplier's modeling of measured influent concentrations, the corresponding resin loading rate should require two regenerations per week. However, the regeneration frequency was increased to three times per week in April 2019 based on increasing detections of 1,4-dioxane in the System effluent and has remained at this schedule through 2024.

No VOCs were detected above the method reporting limits in the effluent samples except for the sample collected in July 2024 which contained 4.79 µg/L of VOCs including 1,1-DCE, 1,1-DCA, 1,2-DCB, 1,3-DCB, and chloroethane. The System's monthly removal efficiencies for total VOCs and 1,4-dioxane were calculated using the most recent (or concurrent) monthly influent sampling results and the effluent sampling results. Based on these results, the System VOC removal efficiency during 2024 was over 99% per month, averaging 99.9% during 2024. The 1,4-dioxane concentrations were below the method reporting limits in the effluent water samples except for five detections in February, May, July, October and December 2024 which ranged from 1.0 µg/L (February) to 7.1 µg/L (October). Based on these sampling results, the removal

efficiency for 1,4-dioxane was over 93% per month, averaging 99% for 2024. The 2024 removal efficiency for 1,4-dioxane approaches values for the initial years of System operation.⁴

During the 2024 reporting period, the System removed an estimated 58 lbs. of the primary CVOCs: 1,1-DCE, 1,1-DCA, and 1,1,1-TCA, and 15.1 lbs. of 1,4-dioxane (Table 1). The total COCs, which include the primary CVOCs and 1,4-dioxane, removed in 2024 (73.1 lbs) is less than the historical average of 100 lbs, primarily due to the reduction in the volume of groundwater treated by the System. The volume of treated groundwater discharge in 2024 (19.1 MGal) and the average flow rate while in operation (36.6 gpm) were below their historical annual averages (26 MGal and 67 gpm). All recovery well flow rates were below average in 2024, as further described below, but the overall flow was particularly impacted by the 7-month shutdown of RW-2D, which typically represents 45% of the total System flow when in operation. Shallow recovery well RW-3S, although contributing must less (up to 4%) of the total flow, was also offline most of 2024. More information on the RW-2D shutdown, which spanned May through December 2024, is described in Section 2.1. RW-2D was repaired in December 2024, and the COC removal is expected to improve in 2025. Figure 3 plots the cumulative mass removal of the primary CVOCs and 1,4-dioxane by the System from start-up (March 2017) through December 2024.

RECOVERY WELL GROUNDWATER EXTRACTION AND CONTAMINANT REMOVAL

GROUNDWATER PUMPING RATES

The monthly average extraction rates and total volume withdrawn for each recovery well are provided in Table 2. Data for each recovery well is collected weekly by the certified System operator from a flowmeter located at each wellhead. Higher extraction rates were set at the deep recovery wells compared to the shallow recovery wells to ensure the development of a sufficient capture zone along the southern Site boundary in the deep zone of the aquifer. When operating properly, the deep recovery well flow rates ranged from 25 to 30 gpm in 2024, and the shallow recovery well flow rates ranged from 1.5 to over 4 gpm. The average combined flow rate determined from the summation of the individual recovery well extraction rates (Table 2) include data from nonoperational and partially operational days. The average flow in 2024 based on the cumulative flow from the individual recovery well flow rates (45.1 gpm) was both below the design value (80 gpm) and average historical flow rate (50.2 gpm) due to operational issues with the individual wells and treatment equipment, as described in Section 2.3. Actions to improve flow were implemented in 2024 including maintenance on the extraction pumps, line jetting to remove scaling in the recovery well's discharge piping, and electrical repairs. Therefore, the flow rates are expected to improve in 2025.

CONTAMINANT RECOVERY AT GROUNDWATER EXTRACTION POINTS

WELL DISCHARGE SAMPLING

In accordance with the Groundwater Monitoring Plan (WSP 2015b), water samples were collected from the shallow and deep recovery wells during the spring and fall semi-annual sampling events on May 19, 2024, and November 10, 2024. RW-3S and RW-2D were not operating during either semi-annual sampling event (Section 2.1) and therefore no samples were collected in 2024. The sampling data is used to assess contaminant recovery at the individual groundwater extraction points in the shallow and deep portions of the aquifer.

A groundwater discharge water sample from each recovery well was collected via sampling ports located in the well-head piping present in the sub-grade vaults. The valve for the sampling port was opened to deliver a low flow stream of water to fill the sample bottles. Initially, a small amount of water was purged from the sampling port and collected in a 5-gallon bucket. A groundwater sample was then collected for laboratory analysis of VOCs by USEPA SW-846 Test Method 8260D and 1,4-dioxane using modified USEPA SW-846 Test Method 8270E SIM by the ALS Environmental laboratory in Middletown, Pennsylvania. The contained purge water generated from the recovery well sampling was processed through the System.

⁴ Based on the characteristics of the 1,4-dioxane breakthrough curve, the effluent concentration represents a maximum concentration for that sampling period and not the average concentration for the monitoring period. As a result, actual removal efficiency is presumed to be greater than 96.8%.

SAMPLE RESULTS

May and November 2024 recovery well analytical results are presented in Table 4, and historical sampling data for two VOCs (1,1-DCA and 1,1-DCE) and 1,4-dioxane is presented in Table 5. Results for the 2024 recovery well samples are included in Figure 4. Figure 5 shows the trends in total VOC and 1,4-dioxane concentrations for each well and its average pumping rate. A statistical evaluation is prepared every other year for the recovery wells, and the next evaluation will be provided in the 2025 annual report.

The VOCs (1,1-DCE and 1,1-DCA) and 1,4-dioxane concentrations in the 2024 discharge water samples collected at the recovery wells remain within the range of historical concentrations measured in prior semi-annual sampling events. Overall, the VOCs and 1,4-dioxane concentrations in RW-1S and RW-2S generally appear to have decreased since the start of groundwater pumping, whereas the concentrations in RW-1D appear to have increased during this period (Figure 5 and Table 4). The contaminant concentration trends in the pumping wells are expected to vary as they are influenced by the interplay of contaminant concentrations near the recovery well, the pumping rates applied, and the aquifer conditions. The levels of VOCs and 1,4-dioxane in the 2024 discharge samples were comparatively higher in the two shallow recovery wells sampled, RW-1S (942 µg/l in May and 1,044 µg/l in November 2024) and RW-2S (907 µg/l in May and 790 µg/l in November), than at deep recovery well RW-2D (564 µg/l in May and 568 µg/l in November 2024).

2.3 SYSTEM MAINTENANCE

2.3.1 ROUTINE MAINTENANCE ACTIVITIES

During the 2024 reporting period, WSP subcontracted the weekly O&M of the System to a local contractor, S&S Technologies, Inc. of Elkton, Maryland. Subcontractor oversight was provided by WSP engineers Ms. Shannon Burke and Mr. Greg Makris, working under the direction of Ms. Pam Robertson, P.E., the engineer of record for the System. O&M activities were conducted in accordance with the current version of the O&M Manual, dated May 2018.

Weekly O&M activities performed during 2024 included the following:

- regeneration of the resin
- replacement of bag filters
- cleaning of the resin vessel wye strainers
- cleaning and recalibration of the inline pH probe
- recording instrumentation readings (flow, pressure, temperature)
- system-wide leak inspections
- steam boiler system inspections and testing.

In conjunction with the weekly inspection and testing of the boiler system, a local water treatment contractor (Chem-Aqua, Inc.) completed monthly checks of the boiler water chemistry. Additionally, mechanical inspections and maintenance of the steam boiler components were performed quarterly by another local contractor (Tate).

Annual O&M activities were also performed that included the following:

- visual inspection of all electrical control panels
- visual inspection of the equalization tank interior
- cleaning and inspection of all steam traps
- removal and cleaning of all wye strainers
- cleaning and inspection of all well vaults and piping tee-boxes

Based on the annual inspection findings, it was determined there are no leaks from any of the System components and cleaning of the inside of the flow EQ tank was not necessary. The inside of the EQ tank will be inspected again during 2025.

2.3.2 NON-ROUTINE MAINTENANCE ACTIVITIES

REPLACEMENT OF BOILER COMPONENTS

The System was shut down on July 11 and December 23, 2024, after boiler fire tubes had ruptured. Tate inspected the ruptured boiler fire tubes and determined that their rupture was due to stress caused by the boiler's operating conditions. The System remained offline until the ruptured boiler tubes were replaced on August 17, 2024, and January 17, 2025.

AIR COMPRESSOR

The air compressor that is used to help operate pneumatically controlled valves stopped working on September 24, 2024, triggering a System shutdown. The System Operator determined that the air compressor had reached the end of its operational life. The air compressor was replaced on October 2, 2024, and the System was restarted.

EQUALIZATION TANK TRANSFER PUMP VARIABLE FREQUENCY DRIVE

On January 31, 2024, the System briefly shut down due to VFD inoperability for one of the two System transfer pumps. After troubleshooting the transfer pump, it was determined to be inoperable, and a replacement was ordered. The System was restarted after replacing the transfer pump on February 1, 2024. The replacement transfer pump experienced a problem and failed to operate on March 1, 2024. The pump was repaired, and the System was restarted on March 2, 2024.

ELECTRICAL REPAIRS

The following non-routine electrical repairs were completed:

- On May 20, 2024, the electric submersible pump in RW-2D stopped working. An investigation found that the electrical load reactor used to regulate the voltage between the VFD and the pump was undersized, resulting in damage to the VFD and the pump. The load reactor was upsized appropriately.
- Fuses damaged by overheating in another electrical panel were replaced on August 29, 2024. The overheating was caused by insufficient ventilation within the panel. In conjunction with the fuse replacement, a ventilation fan was installed in the control panel to reduce the potential for future overheating.
- The steam boiler skid's electrical transformer was replaced on October 28, 2024, after an electrical short circuit occurred on October 21, 2024.

PH ADJUSTMENT (CAUSTIC) SYSTEM

Components of the pH adjustment system were replaced on September 4, 2024, after noticing an issue with the injection of the caustic solution to the treated water pipeline. An inspection of the pH adjustment system found deterioration of the valves and chemical feed tubing, which caused the caustic solution to siphon back into the caustic solution holding tank and leak through the tubing. The valves and chemical feed tubing had reached the end of their lifespan for this application, prompting their replacement.

RECOVERY WELLS

Non-routine maintenance performed on the recovery wells in 2024 included the following:

- Rehabilitation was performed at RW-3S including re-development of the well and jetting of the water conveyance line in August 2024. The rehabilitation was performed after noticing a reduction in groundwater recovery rates at RW-3S. The groundwater extraction rate at RW-3S initially improved after the cleaning, but after 3 months of operation, extraction rates diminished to their pre-development rates of less than 1.5 gpm. Continued extraction at RW-3S and potential alternatives (pulsed operations, installation of replacement extraction well, or additional cleaning at RW-3S) will be considered in 2025.
- The submersible pump in RW-2D was replaced in August 2024 after damage caused by the undersized load reactor was identified as described above. The replacement pump failed to operate due to the pump's motor not working, which was determined to be a manufacturer defect. Another replacement pump was procured and installed on December 16, 2024.

- Repairs were performed on RW-1D on August 27, 2024, after it failed to operate due to electrical issues. Operation resumed on September 9, 2024, after completing repairs to the electrical components.
 - Line jetting of the RW-1S and RW-2S conveyance lines occurred on May 13, 2024, to address iron fouling and lower recoverable groundwater flow rates to the System.
-

2.4 RE-DEVELOPMENT OF SHALLOW RECOVERY WELL RW-3S

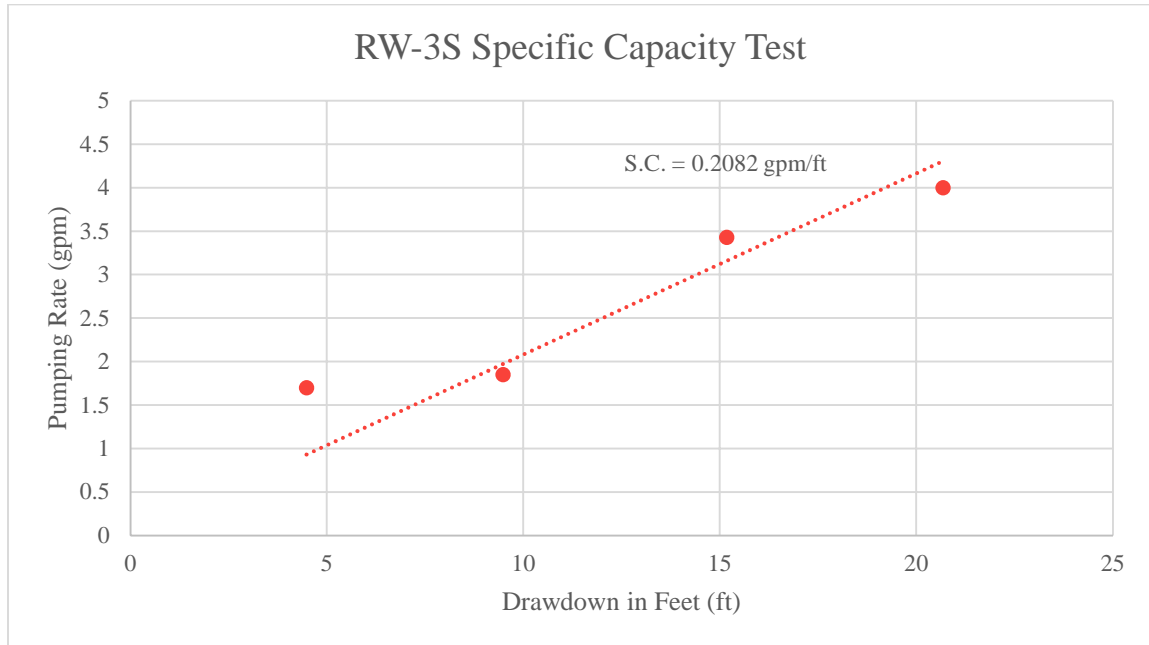
Based on well testing activities conducted during the fall of 2023, WSP concluded that the sand filter pack that surrounds the screened interval for shallow recovery well RW-3S had been compromised by the ingress of fine-grained material from the formation and/or fouling by iron oxide mineralization. This determination helped explain why previous (summer 2022) redevelopment activities, which involved the over-pumping and surging of the well, were not entirely successful in restoring the well yield, because the energy of such a redevelopment technique is insufficient to dislodge and remove fine-grained material over the entire annular thickness of the filter pack material. Based on these findings, additional redevelopment would be necessary to alleviate the clogging problem in the filter pack material for this well. The preferred redevelopment method to remove the clogging material would involve the jetting of the screened interval and surrounding filter pack using high-pressure potable water while simultaneously pumping the well.

On July 2, 2024, WSP oversaw re-development activities at shallow recovery well RW-3S. The work was conducted using high-velocity hydraulic jetting tool operated by a drilling contractor (Parratt-Wolff Inc.). The jetting tool was lowered to the bottom of the well over the course of two separate jetting runs, and water was injected horizontally into the well screen while moving the tool upwards through the entire screened interval.

The water column length above the top of the screen (approximately 10 ft) was too short to affect simultaneous airlift pumping during water jetting. Therefore, after each jetting run, the jetting tool was removed from the well and the solids-containing water within the well was extracted using the airlift pumping system. The pump was placed at the bottom of the well in order to lift sediments through the entire water column, and the water level in the well was kept below the non-pumping level to maintain continuous flow of water from the aquifer and to remove suspended material within the sand pack and borehole wall that was loosened by the jetting operation.

After completion of the re-development activities, a specific capacity (S.C.) test was conducted to assess the improvement in the performance of well RW-3S. The test was performed by continuously extracting groundwater in a series of pumping steps ranging from 1.7 to 4 gpm. Simultaneously, the water level in RW-3S was monitored during groundwater extraction using an electronic water level indicator. The depth to water from the top of the polyvinyl chloride well casing was measured at periodic intervals until the water level in the well stabilized during each pumping step.

The stabilized water levels were used to calculate the S.C. of the well, which is defined as the slope of best-fit line of the stabilized drawdown versus the pumping rate at the end of each step. After the re-development activities, the calculated S.C. was 0.21 gallons per minute per foot of drawdown (gpm/ft) (see plot below).



During step pumping test activities conducted in the Fall of 2023, the calculated S.C. for RW-3S was between 0.1 and 0.2 gpm/ft. Thus, the test results indicate minimal improvement in the well performance after the re-development activities, with the S.C. comparable to values determined during the rehabilitation work conducted in the summer of 2022 (0.25 gpm/ft). The most recent S.C. is below the baseline value of 0.65 gpm/ft, which is based on testing conducted following installation of RW-3S in 2016. Therefore, the redevelopment activities in 2024 do not appear to have rehabilitated this well.

2.5 WASTE MANAGEMENT

2.5.1 RW-3S RE-DEVELOPMENT WATER

The extracted water from the redevelopment activities on shallow recovery well RW-3S was stored in a temporary holding tank at the well head and then routed via hose to the flow equalization tank in the treatment building. All disposable material (*e.g.*, tubing, nylon line, and personal protective equipment [PPE]) was placed into heavy-duty trash bags and managed offsite with similar waste materials generated during routine System O&M activities.

2.5.2 ROUTINE SYSTEM MAINTENANCE ACTIVITIES

Bag filters for the removal of suspended solids from the System influent were regularly changed out with new bag filters. The frequency of bag filter replacement previously increased from monthly to weekly in late 2020. Following rehabilitation of the recovery wells during the summer of 2022, the frequency of bag filter replacement was decreased to a minimum of every two weeks. Spent bag filters are allowed to air dry and managed offsite as non-hazardous waste (general trash). Disposable materials from the System O&M activities (*e.g.*, nitrile gloves) are also managed offsite as non-hazardous waste.

Remedial activities at the Site are conducted by EMERSUB 16 as a very small quantity generator of hazardous waste under the USEPA classification scheme, and small quantity generator of hazardous waste under the MDE designations. No hazardous waste was generated at the Site during 2024.

3 GROUNDWATER MONITORING

3.1 GROUNDWATER MONITORING ACTIVITIES

A total of 21 monitoring wells have been installed to collect groundwater levels and groundwater quality samples at the Site (Figure 1). Details regarding well construction are provided in Table 6. All monitoring wells, along with the co-located piezometers for the recovery wells, were utilized in the groundwater level monitoring program. Groundwater samples were collected from the monitoring wells as part of the monitoring program for the corrective measures.

3.1.1 GROUNDWATER LEVELS

Groundwater level measurements were collected from all onsite monitoring wells on May 19, 2024, during the semi-annual groundwater monitoring event, and again on November 10, 2024, during the annual groundwater sampling event. Additionally, data from three offsite monitoring wells were used to aid in producing groundwater elevation contours for the Site. These included two wells located on the adjacent Williams-Scotsman, Inc. property (MW-24D and MW-45) and one well on the adjacent Verizon property (MW-46D).

The depth to groundwater (to the nearest 0.01 ft) was measured from the reference point on the monitoring well or piezometer casing using an electronic water level meter. The water level data gathered during the 2024 gauging events are provided in Table 7.

3.1.2 GROUNDWATER SAMPLES

SAMPLING PLAN

In accordance with the Groundwater Monitoring Plan (WSP 2015b), groundwater quality samples were collected from the onsite monitoring wells during the semi-annual sampling event on May 19, 2024, and annual sampling event on November 11, 2024. The annual event involved the sampling of all 13 shallow zone monitoring wells (MW-01, MW-03, MW-04R, MW-05R, MW-09, MW-16, MW-18, MW-20, MW-38R, MW-39, MW-42, MW-43, and MW-44) and all 8 deep zone wells (MW-1D, MW-16D, MW-21D, MW-22D, MW-23D, MW-27D, MW-40D, and MW-41D). The semi-annual event excluded the collection of samples from three shallow wells, MW-01, MW-03, and MW-18, and three deep wells, MW-27D, MW-40D, and MW-41D. Monitoring well MW-39 was not sampled during the May field activities because the HydraSleeve™ dropped from its tether line during removal. The sampler was ultimately retrieved but had to be re-deployed in the well. WSP returned to the Site in mid-June 2024 to collect the water quality sample from this monitoring well.

MONITORING WELL SAMPLING PROCEDURE

The HydraSleeve™ sampler was used to collect groundwater samples from the onsite monitoring wells in 2024. The HydraSleeve™ is a no-purge sampling device capable of collecting representative groundwater samples for analysis of a range of dissolved groundwater constituents, including VOCs and 1,4-dioxane.

Since initiation of onsite groundwater monitoring in 2016, the groundwater samples were collected using standard-size HydraSleeve™ samplers that were 30-inches (2.5 ft) in length. In 2022, WSP changed the analytical method used to analyze the groundwater samples for 1,4-dioxane from modified EPA SW-846 Method 8260D with SIM to the more accurate EPA SW-846 Method 8270E with SIM. Given the larger sample volume necessary for the 8270E test method, the standard HydraSleeve™ was not able to retrieve enough water for the 1,4-dioxane laboratory analysis and measurement of field hydrogeochemical parameters. Consequently, in December 2023, WSP switched to using longer (38-inch or 3.2-foot) HydraSleeve™ samplers, which provide sufficient volume for all required laboratory and field analyses.

The samplers were installed in the wells by attaching the HydraSleeve™ to a weighted, nylon suspension tether and setting the sampler at the pre-determined depth within the screened interval. The suspension line was secured at the wellhead to ensure the sampler remained at the designated depth during the stabilization period, which corresponded to the time between

sampling events. The groundwater sample was collected by continuously pulling upward on the suspension line until the HydraSleeve™ was full. The HydraSleeve™ was removed from the well, and the water immediately transferred to the appropriate sample containers to minimize any diffusive loss of VOCs through the polyethylene wall of the sampler.

In addition, monitoring wells MW-16 and MW-16D were fitted with a SuperSleeve sampling device, which has an even longer length of 5 ft, to provide the necessary volume to collect the blind duplicate and matrix spike/matrix spike duplicate (MS/MSD) samples. The tops of the HydraSleeves™ were suspended at the midpoint of the screen in each well such that retrieval would collect water from the overlying interval equal to the sampler length. The current deployment depths differ from those for the previous (standard-size) HydraSleeve™ samplers, which were positioned at a depth slightly below the screen midpoint. Given the modified deployment depth and slightly greater sampler length, the current HydraSleeves™ samplers target a longer sampling interval within the upper portion of the well screen. The depth intervals for deployment of the HydraSleeve™ samplers in the offsite wells are provided in Table 8.

After obtaining the requisite sample volume for chemical analysis, a representative amount of the remaining water was analyzed in the field for hydrogeochemical parameters. The water was placed into the sample cup of a calibrated Horiba U-52 multi-parameter field meter for measurement of the following parameters:

- Temperature
- pH
- Specific conductivity
- Turbidity

The field parameter measurements for each sample were documented in a field notebook. Table 9 includes the field parameter measurements for the May 2024 sampling event and Table 10 includes the field parameter measurements for the November 2024 event. At wells MW-16 and MW-16D, which are designated for the collection of field quality control samples (MS/MSD and field duplicate, respectively), insufficient volume was left over to collect field parameter measurements. Insufficient sample volume to measure field parameters was also encountered at well MW-44 during the November (annual) sampling event.

Following sample collection, a new HydraSleeve™ sampler was deployed in each well for the next sampling event. Any excess water generated from the monitoring well sampling activities was contained in 5-gallon buckets and processed through the System.

The monitoring well samples were analyzed for VOCs using USEPA SW-846 Test Method 8260D and 1,4-dioxane using USEPA SW-846 Test Method 8270E SIM by the ALS Environmental laboratory in Middletown, Pennsylvania.

3.2 GROUNDWATER MONITORING RESULTS AND EVALUATION

3.2.1 GROUNDWATER LEVELS

Groundwater level monitoring is conducted to gather data to evaluate the groundwater flow direction and hydraulic response to pumping in both the shallow and deep zones of the LPA. Current and historical monitoring well and recovery well piezometer depth to water measurements and calculated groundwater elevations are provided in Table 7. Water level contour maps depicting the water table, hydraulic head conditions in the lower portion of the shallow zone of the LPA, and the deep zone of the LPA are provided in Figures 6, 7, and 8 for the May 2024, and Figures 9, 10, and 11 for November 2024.

GROUNDWATER SURFACE

The water table contour maps (Figures 6 and 9) indicate generally west-northwest groundwater flow in the upper-most portion of the shallow zone of the LPA during both monitoring events. The May and November 2024 contour maps depict a localized depression in the groundwater surface around well MW-38R related to groundwater pumping from recovery wells RW-1S and RW-2S immediately to the east. A slight mounding effect is observed in both measurement events around MW-04R and MW-09, most likely reflecting enhanced recharge to the groundwater system associated with the stormwater management area in the east-central portion of the Site.

LOWER PORTION OF LOWER PATAPSCO AQUIFER SHALLOW ZONE

The potentiometric surface maps for the lower portion of the shallow zone of the LPA (Figures 7 and 10) show pronounced drawdown in the vicinity of the shallow recovery wells during the May and November monitoring events. In this area, a well-developed cone of depression exists near RW-2S and extends to the north toward wells MW-39 and MW-43, south towards MW-44, and west towards Stony Run.

Notable differences in the shape of cone of depression occurred between May and November 2024. In May, the cone of depression was centered more closely to RW-1S, rather than RW-2S where it is typically located. The groundwater elevation measurements collected during this event coincided with a decrease in pumping rates at RW-2S during the month of May. However, while the extent of the groundwater sink differs from historical results, the width and breadth of the inflow/capture area is similar to previous events. In November, the cone of depression was centered around RW-2S, as the pumping rate for this well was within design specifications, . Even with optimal pumping from this recovery well, the width of the inflow/capture area was narrower than previous events. Typically, the western extent of the drawdown cone is defined by the groundwater elevation at MW-03, however the measurement at this location was omitted in the November data set due to a suspected error in the field measurement (see further discussion below). The lack of data at MW-03 creates a capture zone boundary closer to RW-2S based on the contours generated using the kriging interpolation method. Additionally, drawdown at RW-1S was less than historical averages, perhaps due to lower pumping rates in November 2024 as compared to prior months.

Based on the spatial head variations, groundwater in the upper portion of the shallow zone will tend to migrate downward through the clayey deposits in the western portion of the Site and serve as inflow to the shallow recovery well system.

LOWER PATAPSCO AQUIFER DEEP ZONE

Figures 8 and 11 depict the potentiometric surface based on the May 2024 and November 2024 water level measurements, respectively, at the onsite deep wells and offsite wells MW-24D on the William-Scotsman property to the south and MW-46D on the Verizon property to the north. The hydraulic head contours generated from the data indicate generally southward flow pathways for groundwater in this deep zone. The hydraulic head distribution shows a perturbation in the flow field around RW-1D, associated with a slight depression in the potentiometric surface along the southern property boundary in response to groundwater withdrawals from this recovery well. Evaluation of the head distribution indicates drawdown of the potentiometric surface extending south onto the western-most portion of the adjoining William Scotsman property. However, with RW-2D being off-line, the observed drawdown area does not extend toward the southeastern portion of the Site.

Additionally, comparison of the groundwater elevations in monitoring wells MW-21D and MW-41D indicate an upward component of flow from the lower-most portion of the sand deposits comprising the deep zone toward the depth interval screened by the recovery wells. Monitoring well MW-41D, which is screened in the lower-most portion of this zone, had a higher groundwater elevation than MW-21D during both gauging events in 2024 (Table 7). This indicates an upward component of groundwater flow from the lower portion of this hydrostratigraphic unit to MW-21D, which is in close proximity to recovery well RW-1D. However, in contrast to historical gauging events, this relationship was not observed at MW-01D, where the groundwater elevations in both May and November were slightly higher in this well than at MW-41D due to RW-2D being offline throughout 2024.

In general, groundwater levels increased between December 2023 and May 2024, and were higher in May 2024 than in December 2024, which reflects a seasonal fluctuation in the observed elevations consistent with the prior year. The increase in groundwater elevations between December 2023 and May 2024 is potentially due to higher-than-normal precipitation during the first quarter of 2024.⁵ Conversely, the decreasing groundwater elevations between May and November 2024 are correlative with lower-than-normal precipitation rates during that time span. These changes may mimic region-wide changes in the potentiometric surface in the deep zone of the LPA caused by fluctuations in the precipitation recharge within the outcrop area to the north and west of the site.

⁵ Ruiz-Barradas, A., Maryland Climate Bulletin Annual 2024, University of Maryland Department of Atmospheric & Oceanic Science

TEMPORAL CHANGES IN GROUNDWATER LEVELS

Figures 12 and 13 include hydrographs of select wells screened in the shallow zone and the deep zone of the LPA, respectively, that are located outside the area of pumping influence imparted by the shallow and deep recovery wells. The results indicate fluctuations in water levels during the reporting period that are largely consistent with historical changes with one exception. The groundwater elevation measured at MW-03 (98.03 ft above mean sea level) as measured in November 2024 was 8 to 9 ft below the historical average. Given the absence of any activity that could result in such a significant lowering of the hydraulic head at this location, WSP believes this elevation was the result of an erroneous field measurement. As discussed above, the hydrograph for the deep zone (Figure 13) depicts the declines in water levels observed throughout the site between May and December in the deep zone of the LPA. These declining trends may date as far back 2022.

3.2.2 GROUNDWATER QUALITY

OVERVIEW

Groundwater sample collection from the monitoring wells is conducted to monitor the VOC and 1,4-dioxane concentrations in the LPA underlying the Site. The analytical results for the 2024 monitoring events are presented in Table 11. The certified laboratory analytical reports for the 2024 samples are included in Appendix C. Historical analytical results for selected Site-specific constituents are presented in Appendix D.

Concentrations for COCs detected in samples from the shallow and deep monitoring wells are provided in Figures 14 and 15, respectively. Iso-concentration maps for the primary VOCs – 1,1-DCE and 1,1-DCA – and 1,4-dioxane were prepared using the analytical data from the annual (November 2024) monitoring event and are presented in Figures 16, 17, and 18 (shallow zone of the LPA) and Figures 19 and 20 (deep zone of the LPA). The results from offsite monitoring wells MW-24D, MW-45, and MW-46D were included in the data sets for the iso-concentration maps to help provide context with regards to the extent of the affected groundwater⁶. Contours were generated using the Kriging algorithm to interpolate concentrations using the randomly spaced sampling points. When appropriate, the iso-concentration contours were adjusted by hand to correct for boundary effects. Although the recovery well data was not directly used to create the iso-concentration contours, these results were used to check and, if deemed appropriate, adjust the contour lines based on the inflow zone for each recovery well. The lowest iso-concentration contour values were based on the applicable Cleanup Standards. For 1,4-dioxane, the lowest contour is 4.6 µg/L, which corresponds to the MDE risk-based action level. The onsite Cleanup Standard of 15 µg/L, as set forth in the RAP, is shown as a dashed contour line.

The shallow zone iso-concentrations maps were developed using data from monitoring wells screened at depths of less than 45 ft because this is the primary interval for contaminant transport in the shallow zone at the Site. Therefore, data from monitoring wells MW-18, MW-20, and MW-39 were not included when generating the shallow zone iso-concentration maps based on their well screen depths. Monitoring wells MW-5R and MW-38R were also not included in the shallow zone iso-concentration maps because these wells are screened in a clay unit that does not comprise the primary interval of contaminant transport.

SHALLOW ZONE OF LOWER PATAPSCO AQUIFER

As described in Section 3.2.1, groundwater flows in a generally northwestward direction in the shallow zone of the LPA beneath the former Kop-Flex property. For this portion of the aquifer, the highest concentrations of VOCs and 1,4-dioxane were detected in monitoring well MW-16 situated hydraulically upgradient of the shallow recovery wells (Figures 16, 17, and 18). Additional exceedances of the Cleanup Standards were found in eastern (upgradient) monitoring wells MW-04R (1,1-DCE, 1,1-DCA, and 1,4-dioxane) and MW-09 (1,1-DCE). The 2024 results from MW-04R indicate lower concentrations of VOCs than those that were historically detected in abandoned well MW-04, and the 1,1-DCE concentration at MW-09 was the lowest measured at this location since operation of the hydraulic containment system in early 2017. Data for the western monitoring wells screened in the primary transport pathway indicates 1,1-DCE and 1,4-dioxane at levels above their respective Cleanup Standards in samples from well MW-43. Monitoring well MW-20, which is located in the eastern

⁶ The results from these offsite wells are described in more detail in Quarterly Status Report No. 33 to MDE and EPA, dated February 19, 2025 (WSP 2025c).

portion of the site, and wells MW-05R and MW-38, located in the western portion of the Site are not screened within the primary zone of COC transport and also have concentrations above the Cleanup Standards.

The concentrations of 1,1-DCA, 1,1-DCE, and 1,4-dioxane exhibit generally similar distributions within the shallow water-bearing zone, with the respective plumes extending from east to west underneath the loading dock area and buildings toward the recovery wells (Figure 16, 17, and 18). Based on the interpolation method used to develop the iso-concentration contours, the inferred plume areas underlie most of the footprint of the southern building on the property (Catalent Building 2). In comparison, the contours indicate the plumes only occur below a portion of northern building (Catalent Building 1), with the inferred boundary for the 1,1-DCA plume extending along the south wall of this building. The computer-generated contours show the upgradient portion of the plume extending a short distance onto the adjoining Williams-Scotsman property to the east. Historically, these COCs have been non-detected or at concentrations below the Cleanup Standards to the east of the Site (MW-45), and along the southern (MW-01) and western (MW-03 and MW-42). Thus, the Site boundaries generally define the eastern, southern, and western extents of the affected groundwater. Overall, the shallow zone plume maps generated from the November 2024 data are similar in shape and aerial extent to those generated from the December 2023 data.

DEEP ZONE OF LOWER PATAPSCO AQUIFER

Groundwater in the deep zone of the LPA flows in a southward direction across the former Kop-Flex property (see Section 3.1.2). Given the general flow paths in this portion of the aquifer, monitoring wells located near (MW-16D) and slightly upgradient (MW-23D) of the contaminant source areas had the highest VOC and 1,4-dioxane concentrations (Table 11, Figure 15). However, it should be noted that the concentrations of these constituents in samples from well MW-24D located downgradient on the adjoining Williams-Scotsman property were noticeably higher than levels detected in any of the onsite wells.

The Cleanup Standards were also exceeded in samples collected from monitoring wells MW-01D, MW-21D and MW-22D along the southern Site boundary. 1,1-DCE exceeded the Cleanup Standard in MW-01D during both sampling events in 2024 and in the samples collected from MW-21D and MW-22D during the November sampling event only (Appendix D, Figure 15). The concentration of 1,1-DCA (2.9 µg/l) slightly exceeded the Cleanup Standard of 2.8 µg/l in the November 2024 sample from MW-01D but not in the May sample (2.4 µg/l). Monitoring well MW-41D is the deepest well in this zone of the LPA onsite and helps define the lower boundary of the onsite plumes. In November 2024, the sample from MW-41D had no detections of the Site-related COCs.

Figures 19 and 20 provide the November 2024 iso-concentration maps for 1,1-DCE and 1,4-dioxane in the deep zone of the LPA. The iso-concentration maps show groundwater concentrations above the Cleanup Standards across the portion of the Site occupied by the Catalent buildings and extending offsite to the south. Evaluation of the sampling data indicates the highest concentrations of these COCs occur within an elongated area underneath the central portion of both buildings that continues southward onto the Williams-Scotsman property. The lateral boundaries of the COC-affected groundwater are defined by the sample results below their respective standards at well MW-22D to the east and wells MW-27D and MW-40D to the west. Overall, the deep zone plume maps generated from the November data are similar in width to those generated from the December 2023 data and indicate that the plume extents have not expanded.

DISCUSSION OF PRIMARY COC CONCENTRATION TRENDS

Figures 21 and 22 include plots of 1,1-DCA, 1,1-DCE, and 1,4-dioxane concentrations from late 2016 (pre-System start-up) through 2024 for wells screened in the shallow zone and the deep zone of the LPA, respectively. Plots are included for wells where concentrations of one or more of these compounds regularly exceed the Cleanup Standards. Since the 2022 change in the 1,4-dioxane analytical method could influence the detected concentrations for this constituent, evaluation of temporal changes in COCs focuses on the chlorinated VOCs.

SHALLOW ZONE

VOC concentrations at MW-04 increased by more than 100 percent between November 2020 and May 2021, and remained elevated throughout the first half of 2022, before the well was abandoned and replaced with MW-04R (Figure 21; Appendix D). These increases possibly relate to mobilization of VOCs in the vadose zone caused by localized recharge within the adjacent stormwater management area (SWMA). Lower 1,1-DCA and 1,1-DCE concentrations have been measured in samples collected from well MW-04R (November 2022 through 2024) with no apparent trend.

At well MW-09 concentrations of 1,1-DCE and 1,1-DCA show slight decreasing trends (Figure 21; Appendix D – Table D-1). The November 2024 results indicate the greatest semiannual decrease in VOC concentrations since implementation of the hydraulic containment corrective measure, with 1,1-DCE decreasing 70 percent compared to May 2024. These decreases in VOC concentrations could also be related to the long-term influence of groundwater recharge within the SWMA, which potentially displaces VOC mass downwards in this water-bearing zone.

Contrary to MW-04 and MW-09, the historical sampling data for upgradient well MW-20 suggests increasing trends in concentrations of 1,1-DCA and 1,1-DCE (Figure 21; Appendix D – Table D-1). These temporal changes at MW-20, which is screened deeper than MW-04/MW-04R, could also be due to the influence of the SWMA as recharge displaces VOCs downwards into the aquifer zone.

In the MW-16 location in the central portion of the COC plumes, the concentrations of 1,1-DCA and 1,1-DCE decreased from 2016 through 2020, before increasing between May 2021 and December 2023. Concentrations began decreasing again in 2024 (Figure 21). These trend variations may reflect variations in mass flux in response to the remedial measures.

In the western portion of the Site where the recovery wells are located, sampling data for MW-43 indicate decreasing concentration trends for 1,1-DCA, 1,1-DCE and 1,4-dioxane. The declining concentrations continue in the data through to the present reporting period. Recovery well RW-1S is screened in the same zone as MW-43, and these concentration changes are possibly due to the long-term groundwater withdrawals by the System.

In contrast to the decreases observed at MW-43, MW-38R – also in the western portion of the Site – exhibits relatively stable concentrations of 1,1-DCA and 1,4-dioxane throughout the sampling history of the well (Figure 21). The boring log from MW-38R indicates a thick sequence of clay above and extending within the screened interval that may act as a continuing diffusive source of VOCs at these locations.

Farther south at MW-44, the data indicates an apparent increase in the concentrations of 1,1-DCA and 1,1-DCE during the initial two years of System operation (2017 and 2018) and general declines in levels of these COCs since 2019. The temporal concentration variations may be related to reduced diffusive migration of VOCs from contaminated clayey layers to sand units that serve as the primary pathways for constituent transport (Figure 21).

DEEP ZONE

Concentrations of 1,4-dioxane and 1,1-DCE appear to have decreased at MW-01D and MW-22D, which are positioned in the vicinity of extraction well RW-2D (Figure 22, Appendix D). A closer examination of the plots in Figure 22 shows noticeable decreases in the COC concentrations in these wells during the first 2 years of System operation. Thereafter, concentrations of these compounds have remained relatively constant through much of the sampling history. These concentration trends may be the result of the System initially removing groundwater in equilibrium with the aquifer matrix. After this initial period, VOC concentrations in groundwater are limited by the rate of diffusion of COCs from low permeability and low flow portions of the aquifer to the sandy deposits screened by these wells, which also serve as the primary zones for the groundwater extracted by RW-2D.

Conversely, concentrations of 1,1-DCE and 1,4-dioxane at MW-21D lack trends extending throughout the sampling histories of the well (Figure 22, Appendix D). Initially, concentrations of these compounds generally decreased for a 3 to 4-year period following System startup. However, 1,1-DCE levels at this monitoring point have been gradually increasing, and 1,4-dioxane concentrations have remained steady since 2021 (Figure 22). This may be the result of downward migration of VOCs imparted by pumping at RW-1D.

The concentration vs. time plots for 1,1-DCE and 1,1-DCA at well MW-16D, which is located upgradient of recovery well RW-2D, show consistent declines throughout the sampling history of the well (Figure 22, Appendix D). Further upgradient (well MW-23D), the concentrations for these compounds have shown stable trends over time, with minimal fluctuation following the start of remedial pumping. Even though this well is the farthest onsite monitoring point from the deep extraction wells, it is believed the zone of groundwater in-flow, or capture, for RW-1D and RW-2D has extended to and beyond this well location. The absence of any discernable reduction in COC concentrations may reflect the presence of pockets of residual contaminant mass in this portion of the deep zone.

SUMMARY

In summary, the concentration vs. time plots indicate that System operation has resulted in declines in the VOCs and 1,4-dioxane levels at some portions of the shallow and deep zones of the LPA onsite, while no discernable trends are evident in other areas. In general, in the shallow zone, stable or decreasing concentrations are noted at monitoring wells located in the vicinity of the shallow recovery wells, while concentration changes in upgradient monitoring well locations (i.e., MW-04/04R and MW-09) are likely caused by factors unrelated to groundwater pumping (e.g., surface water infiltration in the SWMA). In the deep zone, concentrations have generally decreased in the eastern portion of the site, whereas they have shown no discernable trends in the western and northern portions of the site, perhaps due to variations in the hydrogeologic conditions across the site.

4 CONCLUSIONS

4.1 ASSESSMENT OF SYSTEM OPERATION AND CONTAMINANT CONTAINMENT AND RECOVERY

Overall, the System is operating as designed and is effective in the containment and recovery of contaminants present in the LPA underlying the former Kop-Flex facility. System runtime during 2024 (78%) was above the historical average (73%). However, due to limited operation of one of the shallow recovery wells (RW-3S) and one of the deep recovery wells (RW-2D), the volume of treated groundwater discharged in 2024 (19.1 MGal) and the COC mass removal (73.1 lbs) were below their historical annual averages (26 MGal and 100 lbs). Well RW-2D, which contributes 45% of the total flow to the treatment system, was repaired in December 2024; therefore, the volume of treated groundwater discharge and COC removal are expected to improve in 2025.

Analysis of treated effluent samples during 2024 indicate the System is removing over 99% VOCs and over 93% of the 1,4-dioxane from the extracted groundwater. There were no exceedances of the effluent limits specified in the NPDES Permit or the Site-specific 1,4-dioxane cleanup level during the 2024 operational period.

Redevelopment of RW-3S has not improved the performance of this well as indicated by comparison of the pre- and post-development specific capacity values. Therefore, it is recommended that RW-3S be used for monitoring the groundwater quality in this portion of the shallow zone moving forward rather than the extraction of COC-impacted water. The pump and other well infrastructure at RW-3S will remain in place.

The groundwater inflow area for the shallow recovery wells did not encompass the inferred width of the VOC plume in the shallow zone of the LPA at the Site as estimated from the November 2024 results (see Figures 16 through 18). Reduced pumping at RW-1S during this time period led to contraction of the drawdown cone and consequently a reduction in the size of the zone of influence within the northern portion of the plume. RW-3S has been offline since September 2022 as the groundwater extraction rate became negligible. In 2023, inspection and testing activities were completed to evaluate the source of the diminished yield from the well. The activities determined that lack of yield was the result of a clogged sand filter pack. However, even with RW-3S offline in 2024, hydraulic capture was maintained by the remaining shallow recovery wells RW-1S and RW-2S.

Similarly, the groundwater width of the inflow area for the deep recovery wells did not encompass the inferred width of the VOC plume in the deep zone of the LPA at the Site because pumping well RW-2D was offline during the reporting period (See Figures 19 and 20). This determination is based on the flow paths in response to the hydraulic gradients created during pumping. Under normal conditions, a prominent zone of drawdown is present around RW-2D and MW-01D, which imparts a capture zone that encompasses the eastern half of the onsite plume within the Lower Patapso aquifer. This zone of drawdown was absent in May and November of 2024 and the zone of capture contracted westward of these locations.

As of the time of this report, the RWs are all on-line and pumping within their design parameters, and the System is capable of containment of the plumes.

Since the start-up of the hydraulic containment system in March 2017, the observed declines in COC concentrations in shallow monitoring wells such as MW-09, MW-16, and MW-43, indicate the shallow recovery wells are effective in removing contaminant mass from the shallow zone of the LPA (Figure 21 and Appendix D). Effective containment of the shallow zone plume is indicated by the groundwater quality results being at or below the Cleanup Standards at wells located near the Site boundary (see Figures 17 and 18). The shallow zone groundwater beneath Catalent Building 2 still contains 1,1-DCE, 1,1-DCA, and 1,4-dioxane at concentrations above their respective Cleanup Standards, although the concentrations have decreased for these constituents since the initiation of remedial pumping. The following changes in COC concentrations at monitoring well MW-16 indicate the improvement in the groundwater quality:

- 1,1-DCE – decrease from 26,200 µg/L (December 2016) to 1,490 µg/L (November 2024);
- 1,1-DCA – decrease from 6,420 µg/L (December 2016) to 1,030 µg/L (November 2024); and
- 1,4-dioxane – decrease from 1,450 µg/L (December 2016) to 88.1 µg/L (November 2024)

The exceptions to the temporal changes noted above include well MW-20 in the eastern portion of the Site, and wells MW-38R, and MW-44, which lie within the area of influence for the shallow recovery wells. At these well locations, concentrations have increased (MW-20) or show stable trends (MW-38R and MW-44) for the primary VOCs after the initiation of remedial pumping. The temporal variations in COC concentrations are believed to be related to the spatial and vertical heterogeneity inherent in the geologic materials comprising the LPA at the Site or processes related to the current facility owner’s management of the property. The COCs present at these well locations are eventually captured by the System as groundwater flows toward the recovery wells.

The groundwater in the deep zone of the LPA at the Site contains 1,1-DCE and 1,4-dioxane concentrations above their respective Cleanup Standards, although levels have generally decreased for these constituents since the initiation of remedial pumping. The COC concentrations at monitoring well MW-16D indicate this trend, where between December 2016 (baseline sampling event) and November 2024, 1,1-DCE has decreased from 254 µg/L to 68.2 µg/L and 1,4-dioxane has decreased from 202 µg/L to 21.6 µg/L. Concentrations have also decreased in the deep zone in the eastern portion of the site at MW-22D. However, the concentration of COCs has shown little to no reduction in the deep zone in the western (MW-21D) or northern/upgradient (MW-23D) portions of the Site.

Overall, concentrations of Site contaminants still exceed the Cleanup Standards in some wells in both the shallow and deep zones of the LPA. However, the data also indicates that remedial pumping has been successful in removing contaminant mass from the aquifer, thereby making progress toward improving the groundwater quality of the aquifer.

4.2 PROGRESS TOWARD MDE VCP CERTIFICATE OF COMPLETION

The 2015 RAP described the conditions that would need to be achieved for the MDE to issue a Certificate of Completion for the groundwater response action. These requirements included the following:

- 1 Documentation of the recordation of an Environmental Covenant with the land deed that restricts the use of groundwater underlying the property.
- 2 Submittal of the Construction Completion and Implementation Report and O&M Plan for the Systems.
- 3 Evaluation of water level data from selected monitoring wells demonstrating the effective hydraulic capture of site-related COCs in the onsite area during System operation.
- 4 Evaluation of water quality data from the following monitoring wells in the shallow and deep zones of the LPA during System operation that indicate site-related COC concentrations below the Cleanup Levels for two consecutive monitoring events.

Shallow Zone

MW-03	MW-42
MW-18	MW-43
MW-39	MW-44

Deep Zone

MW-22D	MW-40D
MW-27D	MW-41D

To date, conditions 1 through 3 above have been achieved as part of the implementation of the groundwater response action. The Construction Completion and Implementation Report and current version of the O&M Plan were originally submitted to MDE and USEPA in August 2017 and May 2018, respectively. The recordation of the Environmental Covenant with the groundwater use restriction for the Site groundwater was completed in February 2019. Evaluation of historical water level data collected during System operation indicates the pumping from shallow recovery wells RW-1S and RW-2S and both deep recovery wells are capable of producing the necessary hydraulic response to ensure the capture of the COC-impacted groundwater on the property.

As discussed in Section 3.2.2, there have been reductions in groundwater COC concentrations at shallow zone monitoring points near the western Site boundary and deep zone wells in the vicinity of the southern boundary. Even with this

improvement in the groundwater quality, the concentrations of 1,1-DCE in shallow well MW-43 and deep well MW-22D remain slightly above the designated Cleanup Levels. Given the temporal trends exhibited by recent data from these wells, the potential exists for the 1,1-DCE concentrations to fall below the Cleanup Level for this COC in the near future. After the concentrations of 1,1-DCE is below the Cleanup Level of 7 µg/L for consecutive semiannual sampling events, EMERSUB 16 and WSP will submit a request to the MDE for the issuance of a Certificate of Completion for the groundwater response action under the VCP.

4.3 PLANNED ACTIVITIES FOR 2025

The recent (2024) and historical groundwater monitoring data indicates that the Site is progressing towards the attainment of the MDE RAOs and USEPA CAO, and conditions for issuance of a Certificate of Completion for the groundwater response action under the MDE VCP. Groundwater pumping from all recovery wells achieves effective onsite capture of the plumes in the impacted portions of the aquifer system, thereby preventing further offsite migration of Site-related contaminants. Given that VOCs and 1,4-dioxane concentrations remain above the Cleanup Standards in the onsite area, the continued operation of the System is deemed necessary during 2025. The following actions are planned for 2025:

- Perform the long-term groundwater monitoring plan in 2025, including semiannual elevation measurements, semiannual groundwater monitoring, and annual groundwater monitoring, including additional locations MW-01, MW-03, MW-05R, MW-18, MW-40D, and MW-41D, to evaluate attainment of the RAOs.
- Continue with the operation and maintenance activities for the System, along with the collection and assessment of operational data to evaluate System performance.
- Conduct the required monthly effluent monitoring and reporting pursuant to the NPDES Permit and quarterly influent monitoring to assess the quality of the extracted groundwater entering the System.
- Continue evaluation of the source(s) of the elevated copper concentrations detected in effluent water samples and implement mitigations to reduce the potential for future copper exceedances.
- Replace all fire tubes in the steam boiler to improve boiler operating efficiency.
- Perform *ex-situ* chemical cleaning of the resin in May 2025 to improve VOC removal efficiency and remove natural organic constituents and fine-grained particulates that have accumulated in the treatment media as part of normal System operation.

REFERENCES

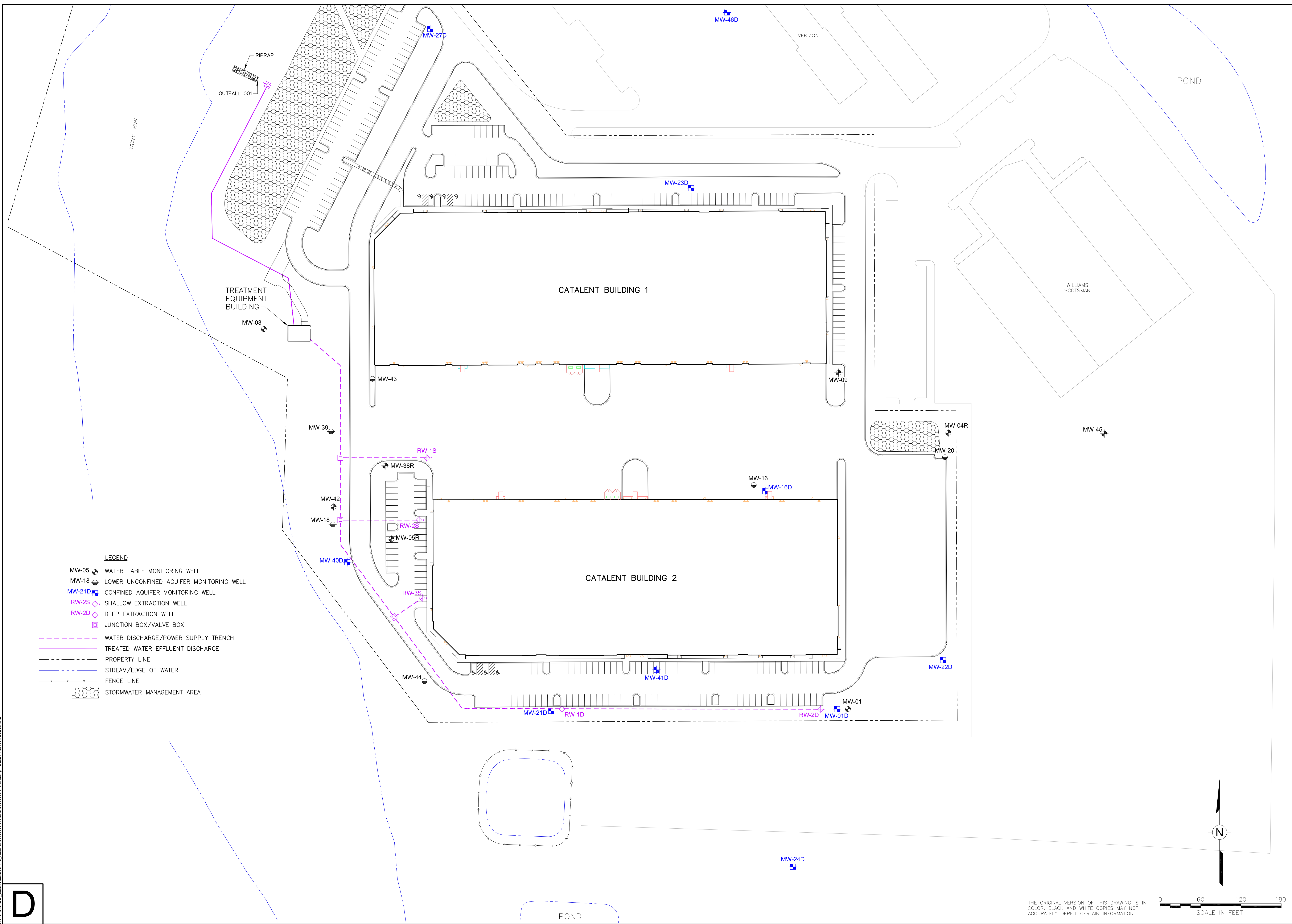
- U.S. Environmental Protection Agency. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance. EPA/530/R/09-007. Washington D.C. March.
- WSP. 2015a. Response Action Plan Revision 2.0. October 2.
- WSP. 2015b. Groundwater Monitoring Plan Revision 1.0. September 17.
- WSP. 2018. Operation, Maintenance & Monitoring Manual Revision 3.0. May 24.
- WSP. 2024a. 2023 Operations, Maintenance, and Monitoring Report. August 15.
- WSP. 2024b. Non-compliance with Effluent Limitation for Copper. November 6.
- WSP. 2025a. Non-compliance with Effluent Limitation for Copper. January 7.
- WSP. 2025b. Sampling Results to Assess Copper Concentrations in Remediation System Discharge. June 2.
- WSP. 2025c. Quarterly Status Report No. 33- Offsite Area. February 19.

ACRONYMS

µg/L	micrograms per liter
COC	constituent of concern
CVOC	chlorinated volatile organic compound
DCA	dichloroethane
DCB	dichlorobenzene
DCE	dichloroethene
EPA	United States Environmental Protection Agency
EQ	equalization
ft	foot
GPM	gallons per minute
lbs	pounds
LPA	Lower Patapsco Aquifer
MDE	Maryland Department of the Environment
MGal	Mega gallons
mg/L	milligrams per liter
MS/MSD	matrix spike/matrix spike duplicate
NPDES	National Pollutant Discharge Elimination System
O&M	operations and maintenance
OM&M	operations, maintenance, and monitoring
PCE	tetrachloroethene
PPE	personal protective equipment
RAO	Response Action Objective
RAP	Response Action Plan
RCRA	Resource Conservation and Recovery Act
S.C.	Specific Capacity
SIM	Selected Ion Monitoring
SU	standard units
SWMA	stormwater management area
TCA	trichloroethane
TCE	trichloroethene
TRC	total residual chlorine
VFD	variable frequency/flow drive
VOC	volatile organic compound

FIGURES





REV	REVISIONS	DESCRIPTION

SEAL

DATE

DRAWN BY	EGC	DATE
CHEKED	SLP	9/15/2022
APPROVED	RJ	

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

HYDRAULIC CONTAINMENT SYSTEM AND MONITORING WELL LOCATIONS

FORMER KOP-FLEX FACILITY SITE
HANOVER, MARYLAND

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

WSP

WSP USA Inc.
13530 DULLES TECHNOLOGY DR., SUITE 300
HERNDON, VA 20171
TEL: +1 703.709.6500

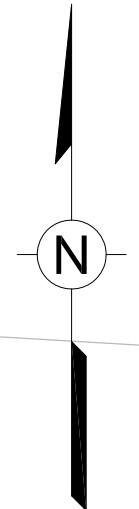
FIGURE 1

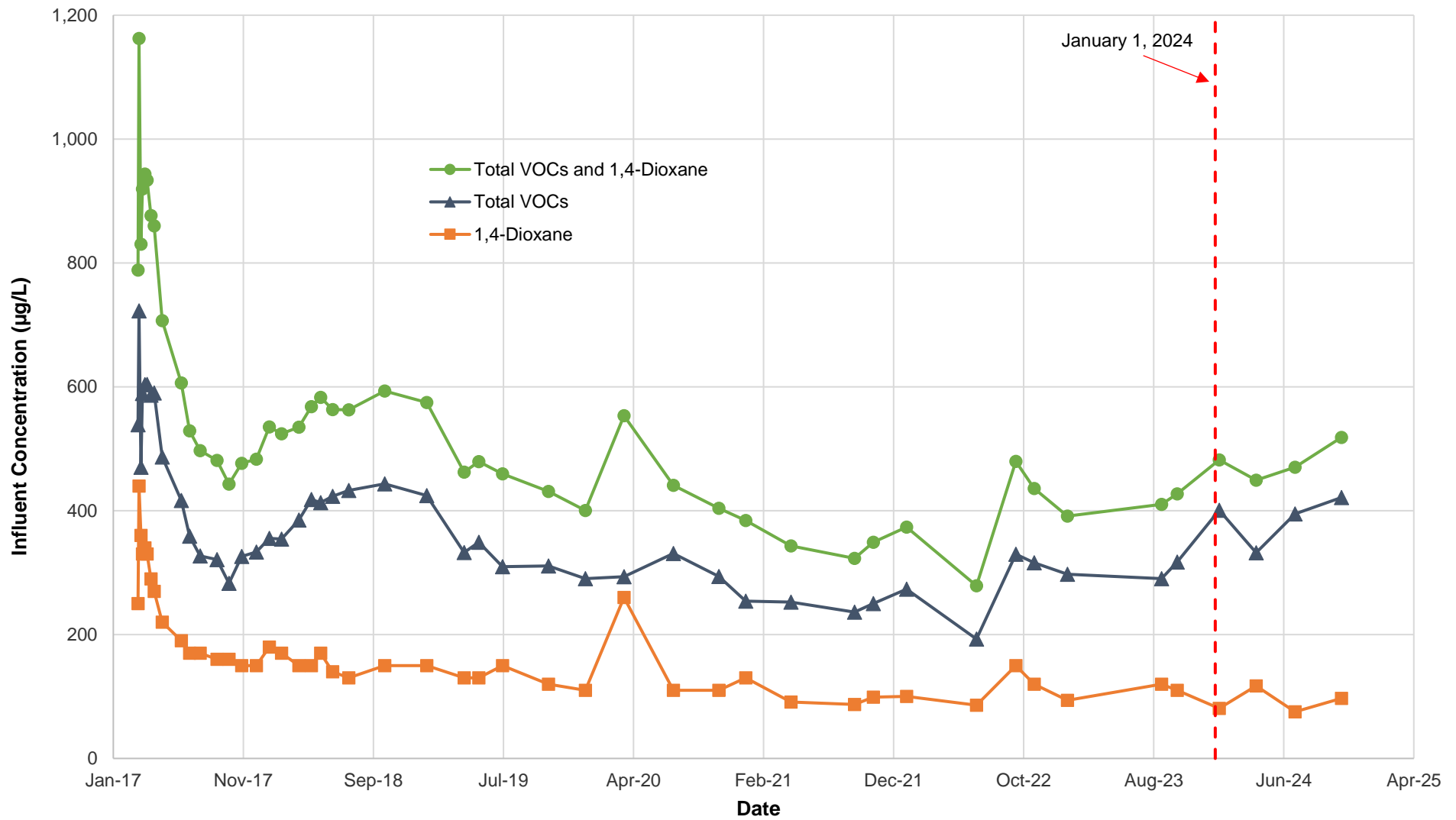
Drawing Number
314V5608.010-073

R:\CAD\CADD_CLIENT\Emerson\314V5608.010\CADD\314V5608.010.dwg 9/20/22 11:51 AM JBER01012

D

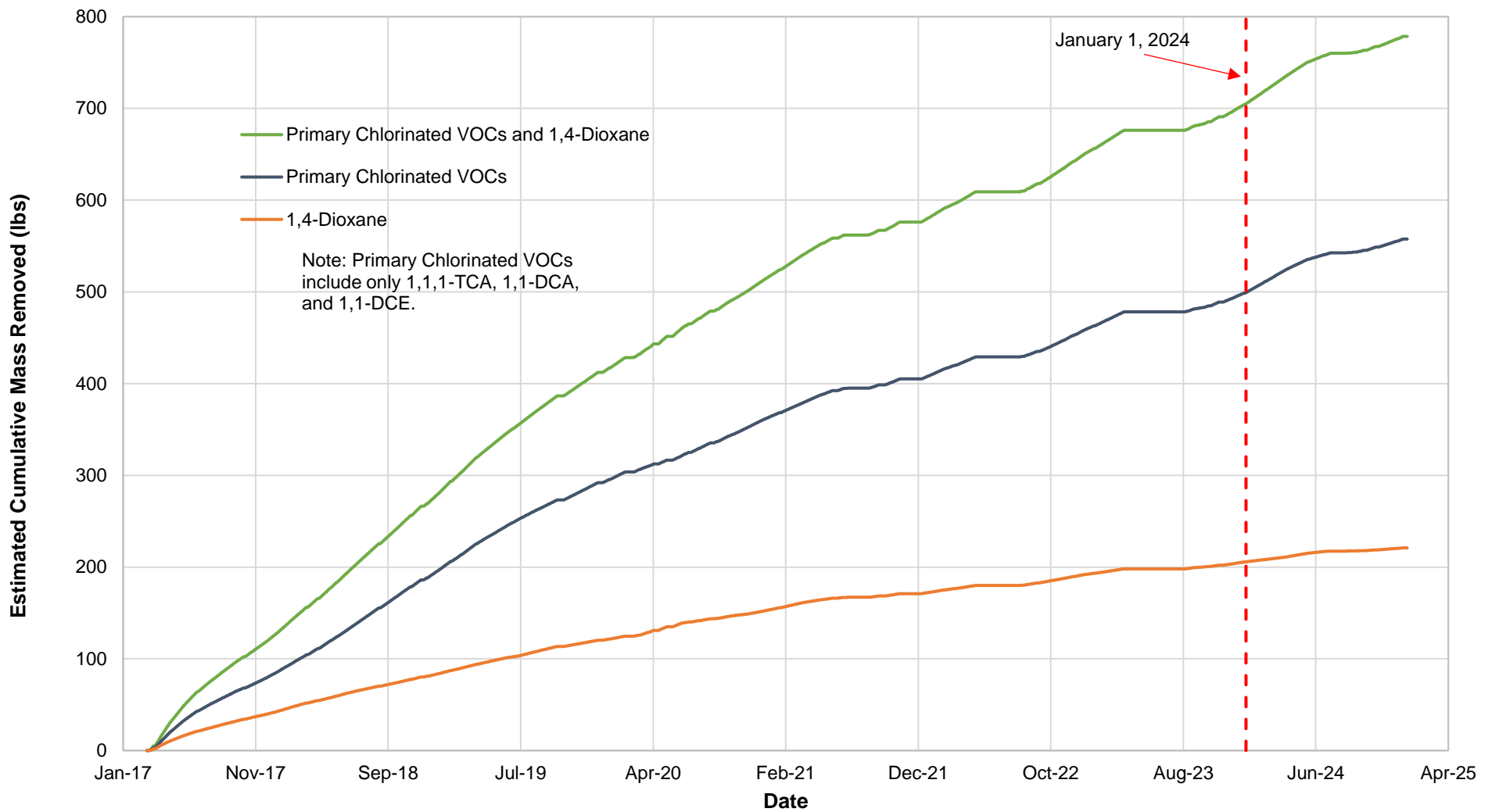
THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.





WSP USA Inc.
 13530 Dulles Technology Drive Suite 300
 Herndon, Virginia 20171
 703-709-6500

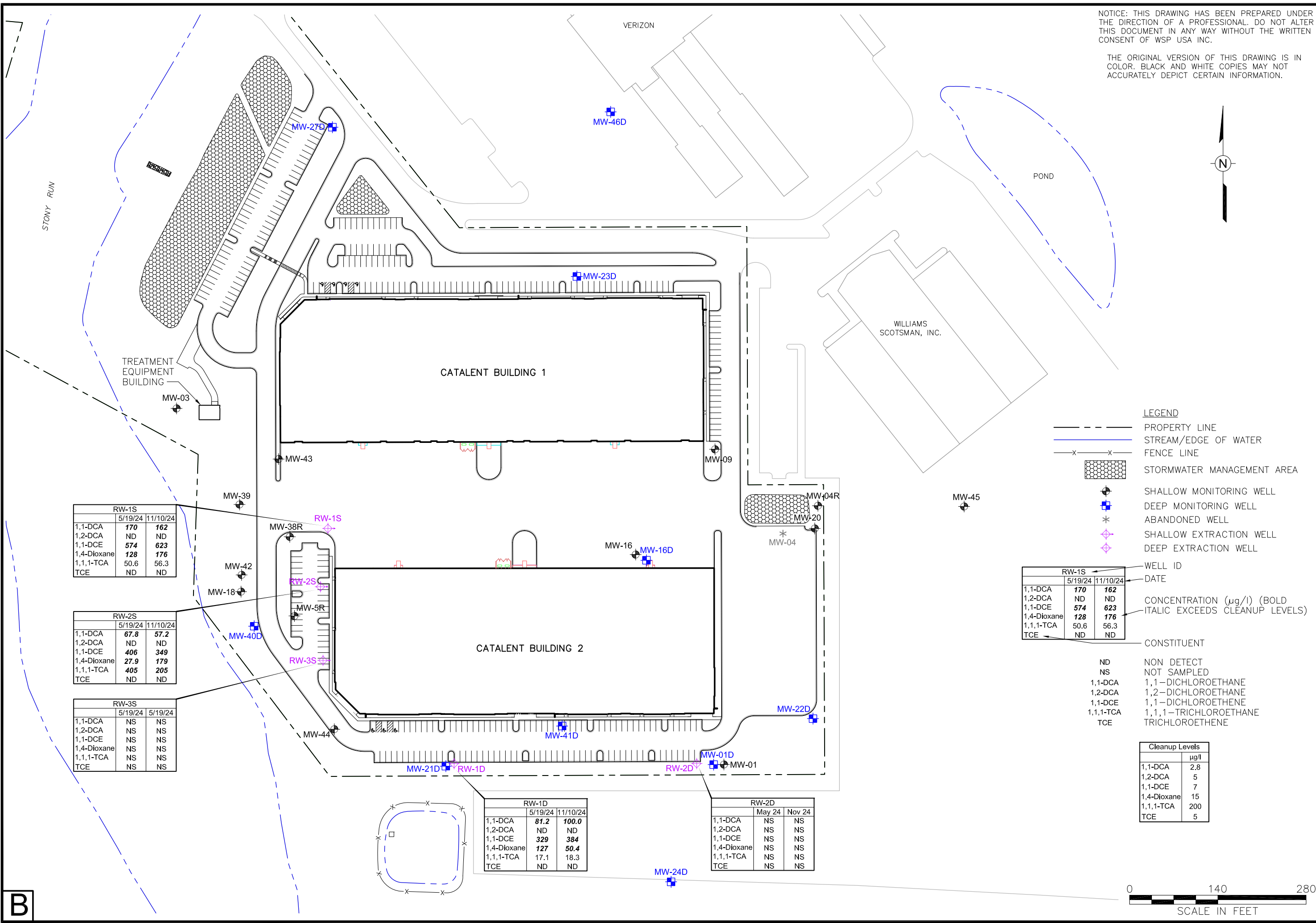
Figure 2
Historical Influent Concentrations
Former Kop-Flex Facility Site
Hanover, Maryland



WSP USA Inc.
 13530 Dulles Technology Drive Suite 300
 Herndon, Virginia 20171
 703-709-6500

Figure 3
Cumulative Mass Removal
Former Kop-Flex Facility Site
Hanover, Maryland

R:\ACAD\CADD\Clients\Emerson\MD_Hanover\314V5608.010\CAD\314V5608.010-082.dwg 6/18/2025 2:05 PM USEC01012

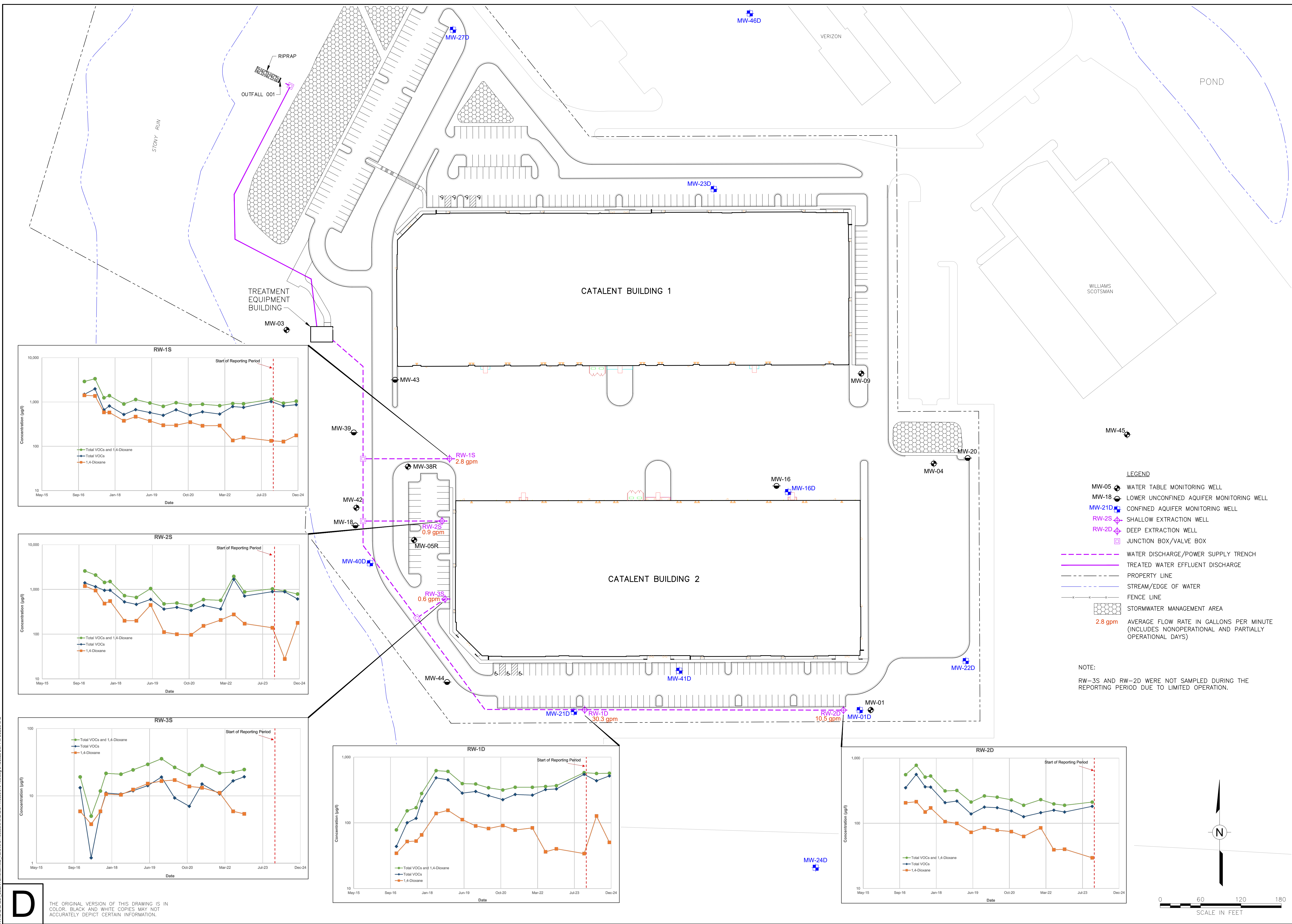


Drawn By: EGC
 Checked: EGR 2/14/2025
 Approved: RY
 DWG Name: 314V5608.010-082

FORMER KOP-FLEX FACILITY SITE
 HANOVER, MARYLAND
 PREPARED FOR
 EMERSUB 16 LLC
 ST. LOUIS, MISSOURI

FIGURE 4
 GROUNDWATER RECOVERY WELL RESULTS
 (2024)

WSP USA Inc.
 13530 DULLES TECHNOLOGY DR
 SUITE 300
 HERNDON, VA 20171
 TEL: +1 703.703.6500



REV	REVISIONS	DESCRIPTION

DRAWN BY	EJC
CHECKED	TT
APPROVED	6/18/2025

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

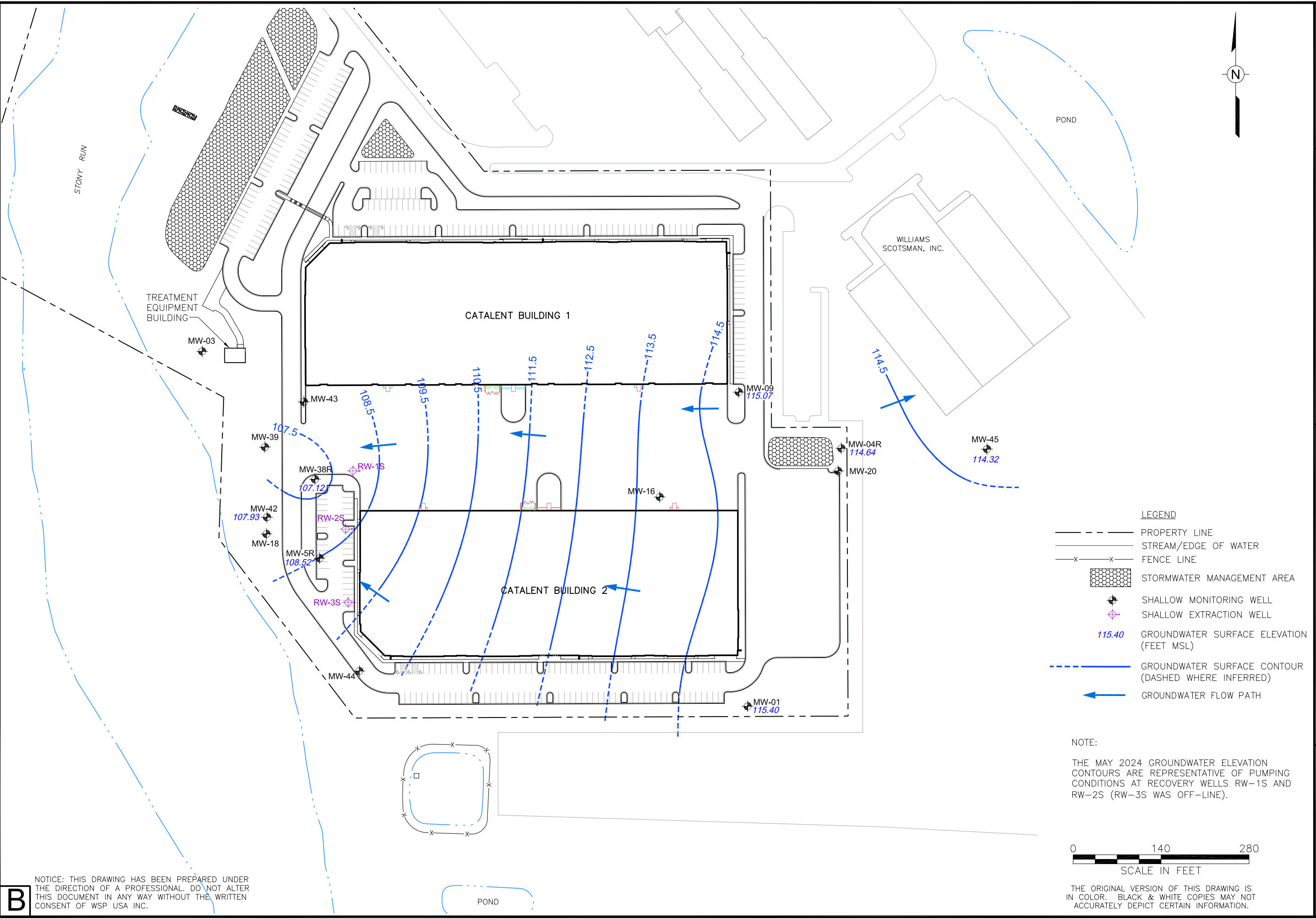
**VOC AND 1,4-DIOXANE CONCENTRATIONS
IN RECOVERY WELL DISCHARGE
(2017 THROUGH 2024)**
FORMER KOP-FLEX FACILITY SITE
HANOVER, MARYLAND

WSP
WSP USA Inc.
13530 DULLES TECHNOLOGY DR., SUITE 300
HERNDON, VA 20171
TEL: +1 703.709.6500

FIGURE 5
Drawing Number
314V5608.010-106

D THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

R:\ACAD\CADD\Clients\Emerson\MD_Hanover\31405608.010\CAD\314V5608.010-079.dwg 2/18/2025 2:23 PM USEC01012



- LEGEND**
- PROPERTY LINE
 - STREAM/EDGE OF WATER
 - x-x- FENCE LINE
 - [Hatched Box] STORMWATER MANAGEMENT AREA
 - ⊕ SHALLOW MONITORING WELL
 - ⊕ SHALLOW EXTRACTION WELL
 - 115.40 GROUNDWATER SURFACE ELEVATION (FEET MSL)
 - - - GROUNDWATER SURFACE CONTOUR (DASHED WHERE INFERRED)
 - GROUNDWATER FLOW PATH

NOTE:
 THE MAY 2024 GROUNDWATER ELEVATION CONTOURS ARE REPRESENTATIVE OF PUMPING CONDITIONS AT RECOVERY WELLS RW-1S AND RW-2S (RW-3S WAS OFF-LINE).



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

B NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

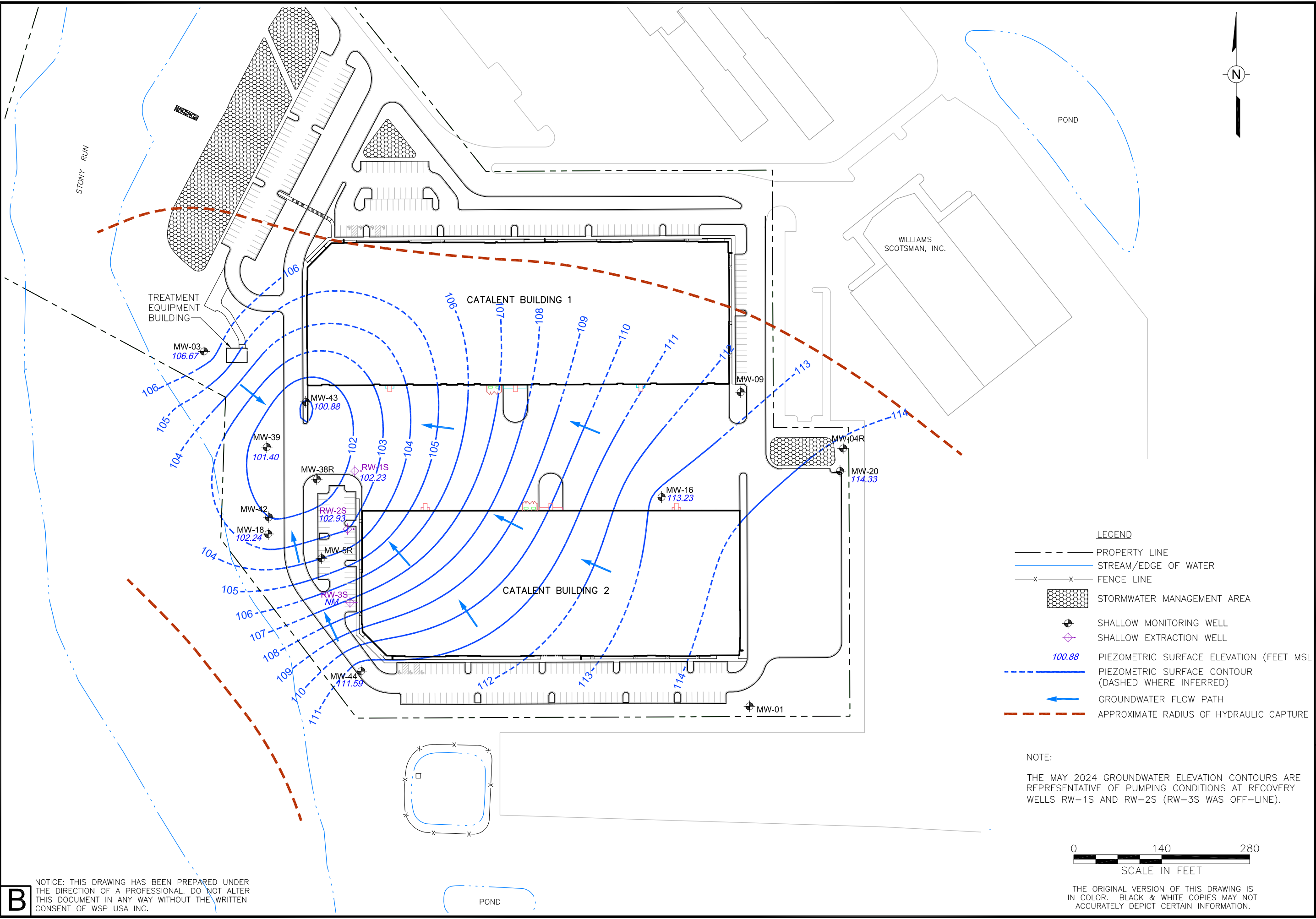
Drawn By: EGC
 Checked: EGR 7/17/2024
 Approved: RY
 DWG Name: 314V5608.010-079

FORMER KOP-FLEX FACILITY SITE
 HANOVER, MARYLAND
 PREPARED FOR
 EMERSUB 16 LLC
 ST. LOUIS, MISSOURI

FIGURE 6
 WATER TABLE CONTOUR MAP,
 PUMPING CONDITIONS
 (MAY 2024)

WSP USA Inc.
 13550 DOLLERS TECHNOLOGY DR
 SUITE 500
 BERRINGTON, VA 20171
 TEL: +1 703.703.6500

R:\ACAD\CADD\CLIENT\Emerson\MD_Hanover\314V5608.010\CAD\314V5608.010-080.dwg 2/18/2025 9:10 PM USEC01012



LEGEND

- PROPERTY LINE
- STREAM/EDGE OF WATER
- x-x- FENCE LINE
- [Hatched Box] STORMWATER MANAGEMENT AREA
- ⊕ SHALLOW MONITORING WELL
- ⊕ SHALLOW EXTRACTION WELL
- 100.88 PIEZOMETRIC SURFACE ELEVATION (FEET MSL)
- - - - - PIEZOMETRIC SURFACE CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW PATH
- - - - - APPROXIMATE RADIUS OF HYDRAULIC CAPTURE

NOTE:
 THE MAY 2024 GROUNDWATER ELEVATION CONTOURS ARE REPRESENTATIVE OF PUMPING CONDITIONS AT RECOVERY WELLS RW-1S AND RW-2S (RW-3S WAS OFF-LINE).



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

B NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

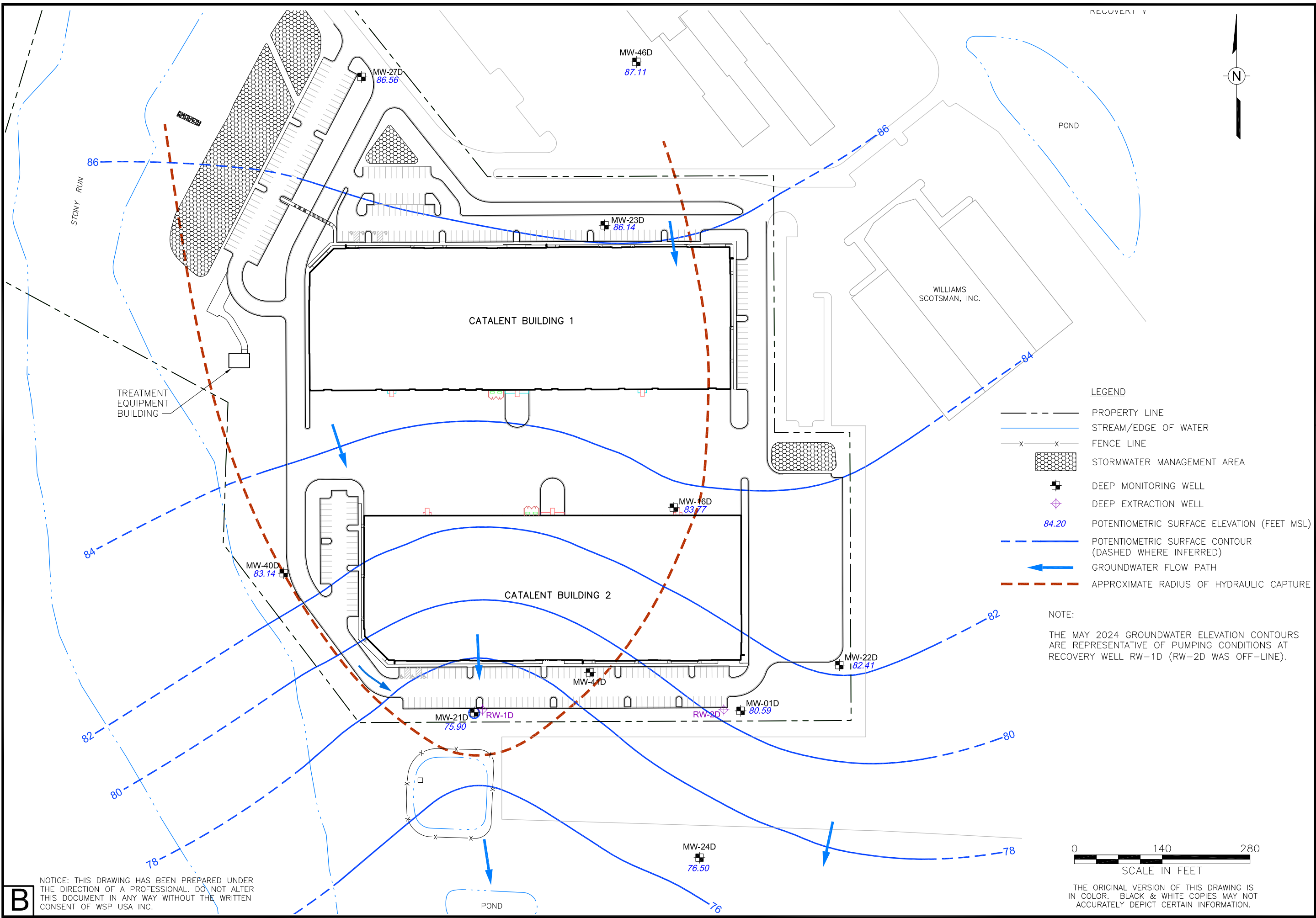
Drawn By: EGC
 Checked: EGC 7/17/2024
 Approved: RGN
 DWG Name: 314V5608.010-080

FORMER KOP-FLEX FACILITY SITE
 HANOVER, MARYLAND
 PREPARED FOR
 EMERSUB 16 LLC
 ST. LOUIS, MISSOURI

FIGURE 7
 PIEZOMETRIC SURFACE CONTOUR MAP FOR THE LOWER PORTION OF THE SHALLOW ZONE OF THE LOWER PATAPSCO AQUIFER (MAY 2024)

WSP USA Inc.
 13550 DOLLIES TECHNOLOGY DR
 SUITE 300
 HERNDON, VA 20171
 TEL: +1 703.709.6500

R:\ACAD\CADD_CLIENT\Emerson\MD_Hanover\31405608.010\CAD\314V5608.010-081.dwg 2/18/2025 2:24 PM USEC01012



- LEGEND**
- PROPERTY LINE
 - STREAM/EDGE OF WATER
 - x-x- FENCE LINE
 - ▨ STORMWATER MANAGEMENT AREA
 - DEEP MONITORING WELL
 - ◆ DEEP EXTRACTION WELL
 - 84.20 POTENTIOMETRIC SURFACE ELEVATION (FEET MSL)
 - - - POTENTIOMETRIC SURFACE CONTOUR (DASHED WHERE INFERRED)
 - ← GROUNDWATER FLOW PATH
 - - - APPROXIMATE RADIUS OF HYDRAULIC CAPTURE

NOTE:
 THE MAY 2024 GROUNDWATER ELEVATION CONTOURS ARE REPRESENTATIVE OF PUMPING CONDITIONS AT RECOVERY WELL RW-1D (RW-2D WAS OFF-LINE).



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

Drawn By: EGC
 Checked: EGR 7/17/2024
 Approved: RY 7/25/2024
 DWG Name: 314V5608.010-081

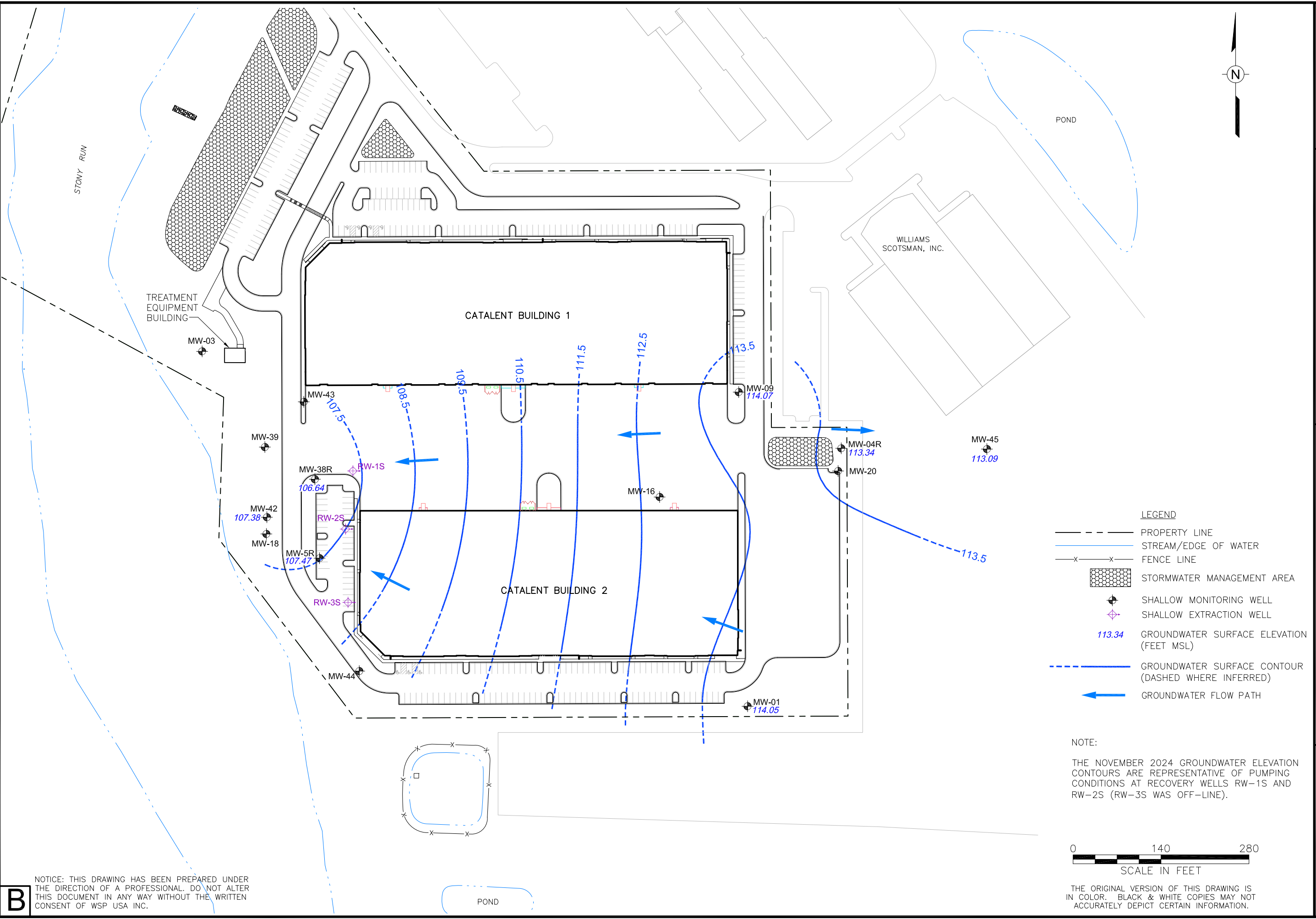
FORMER KOP-FLEX FACILITY SITE
 HANOVER, MARYLAND
 PREPARED FOR
 EMERSUB 16 LLC
 ST. LOUIS, MISSOURI

FIGURE 8
 POTENTIOMETRIC SURFACE CONTOUR MAP FOR
 THE DEEP ZONE OF THE LOWER PATAPSCO
 AQUIFER (MAY 2024)

WSP USA Inc.
 13530 DOLLIES TECHNOLOGY DR
 SUITE 300
 HERNDON, VA 20171
 TEL: +1 703.709.6500

B NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

R:\ACAD\CADD\Clients\Emerson\MD_Hanover\31405608.010\CAD\314V5608.010-068.dwg 7/23/2025 8:51 AM USEC01012



- LEGEND**
- PROPERTY LINE
 - STREAM/EDGE OF WATER
 - x-x- FENCE LINE
 - [Hatched Area] STORMWATER MANAGEMENT AREA
 - ⊕ SHALLOW MONITORING WELL
 - ⊕ SHALLOW EXTRACTION WELL
 - 113.34 GROUNDWATER SURFACE ELEVATION (FEET MSL)
 - - - GROUNDWATER SURFACE CONTOUR (DASHED WHERE INFERRED)
 - ← GROUNDWATER FLOW PATH

NOTE:
 THE NOVEMBER 2024 GROUNDWATER ELEVATION CONTOURS ARE REPRESENTATIVE OF PUMPING CONDITIONS AT RECOVERY WELLS RW-1S AND RW-2S (RW-3S WAS OFF-LINE).



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

B NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

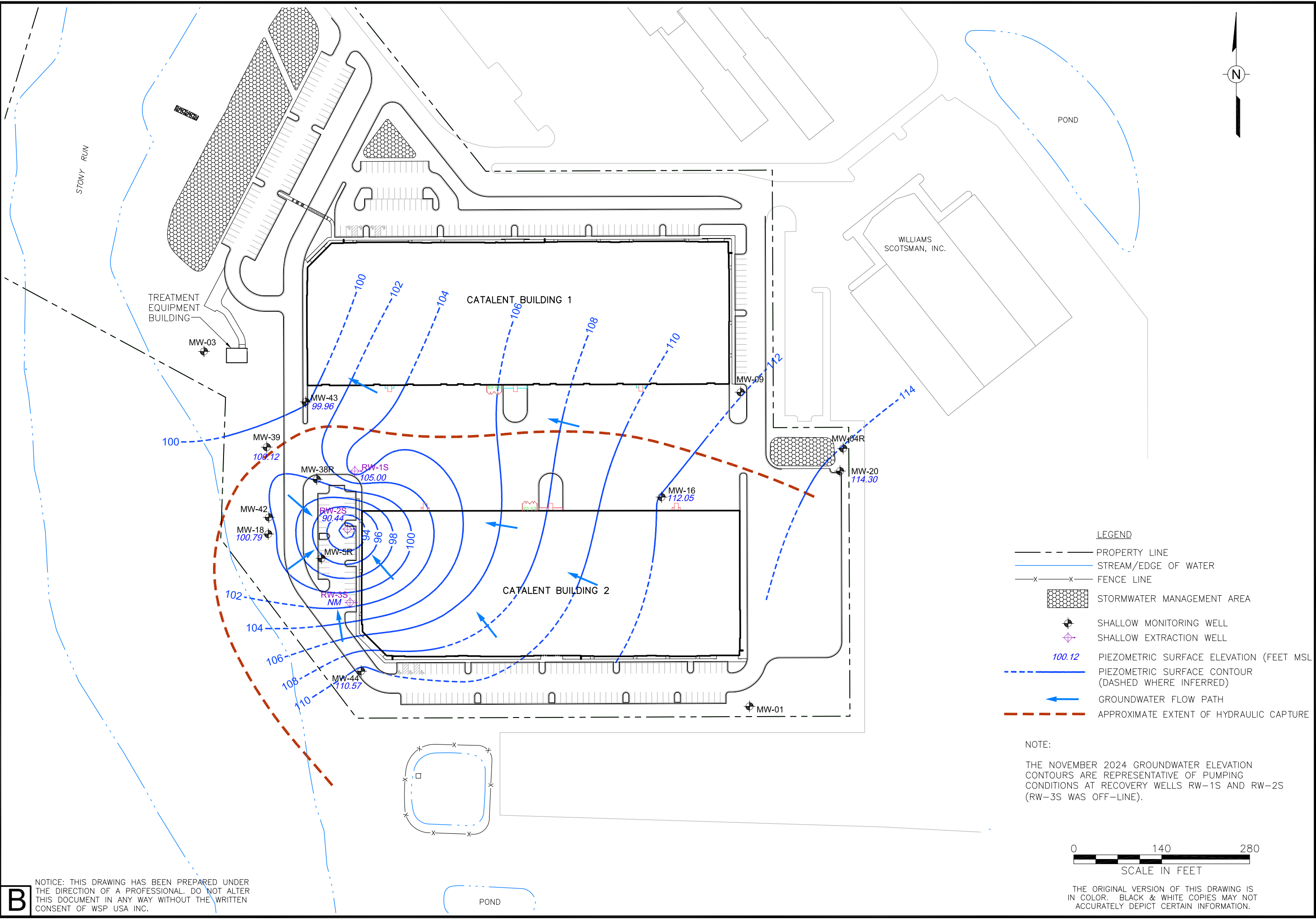
Drawn By: EGC
 Checked: EGR 7/23/2025
 Approved: RY
 DWG Name: 314V5608.010-088

FORMER KOP-FLEX FACILITY SITE
 HANOVER, MARYLAND
 PREPARED FOR
 EMERSUB 16 LLC
 ST. LOUIS, MISSOURI

FIGURE 9
**WATER TABLE CONTOUR MAP,
 PUMPING CONDITIONS
 (NOVEMBER 2024)**

WSP USA Inc.
 13550 DOLLIES TECHNOLOGY DR
 SUITE 300
 BERRINGTON, VA 20171
 TEL: +1 703.709.6500

R:\ACAD\CADD\CLIENT\Emerson\MD_Hanover\314V5608.010\CAD\314V5608.010-089.dwg 2/26/2025 9:20 AM USEC01012



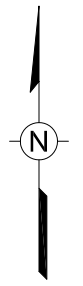
LEGEND

- PROPERTY LINE
- STREAM/EDGE OF WATER
- x-x- FENCE LINE
- [Hatched Area] STORMWATER MANAGEMENT AREA
- ⊕ SHALLOW MONITORING WELL
- ⊕ SHALLOW EXTRACTION WELL
- 100.12 PIEZOMETRIC SURFACE ELEVATION (FEET MSL)
- - - - - PIEZOMETRIC SURFACE CONTOUR (DASHED WHERE INFERRED)
- ← GROUNDWATER FLOW PATH
- - - - - APPROXIMATE EXTENT OF HYDRAULIC CAPTURE

NOTE:
 THE NOVEMBER 2024 GROUNDWATER ELEVATION CONTOURS ARE REPRESENTATIVE OF PUMPING CONDITIONS AT RECOVERY WELLS RW-1S AND RW-2S (RW-3S WAS OFF-LINE).



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.



B NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

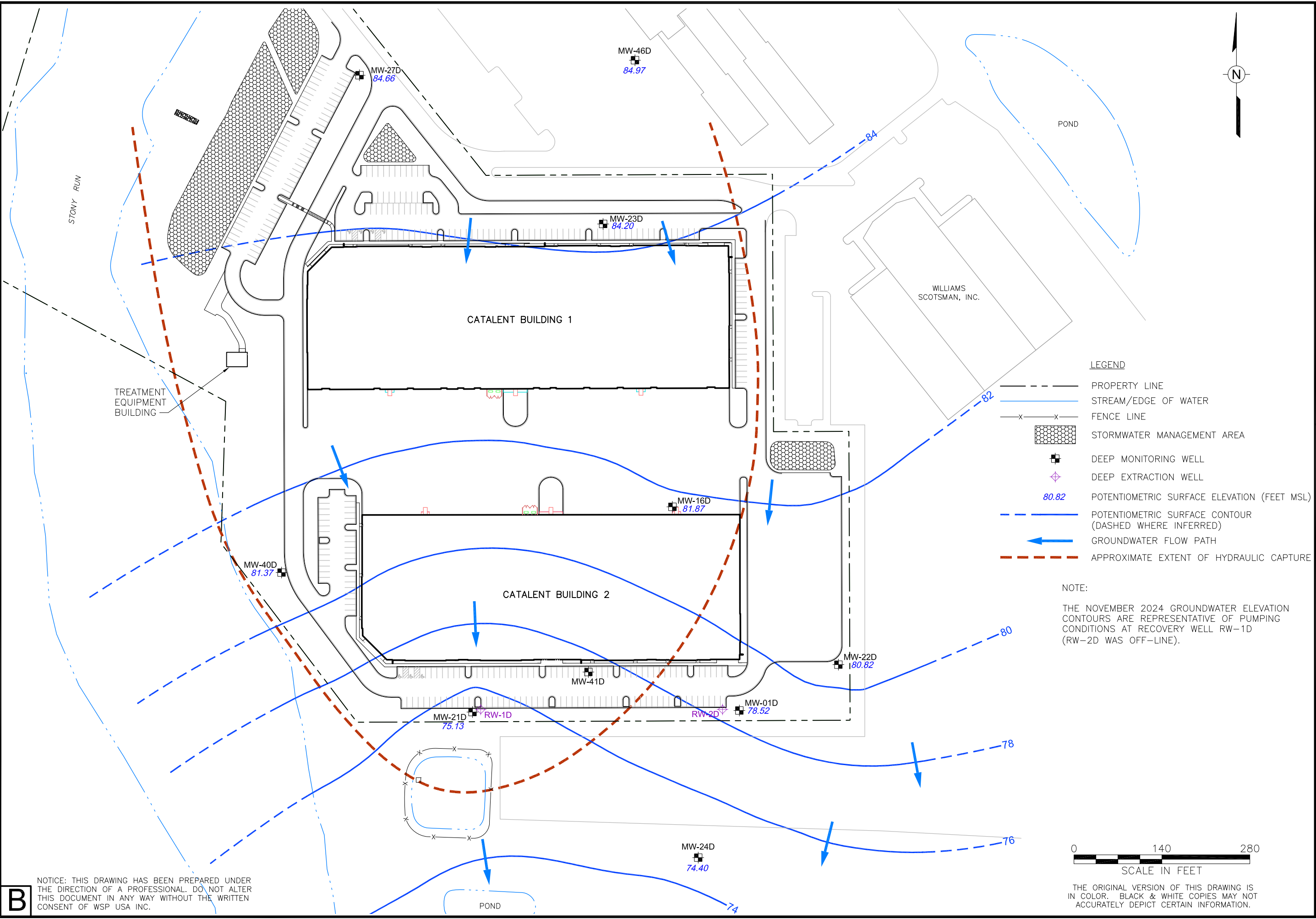
Drawn By: EGC
 Checked: EGR 12/26/2024
 Approved: RY 1/24/2025
 DWG Name: 314V5608.010-089

FORMER KOP-FLEX FACILITY SITE
 HANOVER, MARYLAND
 PREPARED FOR
 EMERSUB 16 LLC
 ST. LOUIS, MISSOURI

FIGURE 10
 PIEZOMETRIC SURFACE CONTOUR MAP FOR THE LOWER PORTION OF THE SHALLOW ZONE OF THE LOWER PATAPSCO AQUIFER (NOVEMBER 2024)

WSP USA Inc.
 13530 DOLLIES TECHNOLOGY DR
 SUITE 300
 HERNDON, VA 20171
 TEL: +1 703.709.6500

R:\ACAD\CADD_CLIENT\Emerson\MD_Hanover\31405608.010\CAD\314V5608.010-090.dwg 2/18/2025 6:15 PM USEC01012



LEGEND

- PROPERTY LINE
- STREAM/EDGE OF WATER
- x-x- FENCE LINE
- [Hatched Box] STORMWATER MANAGEMENT AREA
- ⊕ DEEP MONITORING WELL
- ⊕ DEEP EXTRACTION WELL
- 80.82 POTENTIOMETRIC SURFACE ELEVATION (FEET MSL)
- - - POTENTIOMETRIC SURFACE CONTOUR (DASHED WHERE INFERRED)
- ← GROUNDWATER FLOW PATH
- - - APPROXIMATE EXTENT OF HYDRAULIC CAPTURE

NOTE:
 THE NOVEMBER 2024 GROUNDWATER ELEVATION CONTOURS ARE REPRESENTATIVE OF PUMPING CONDITIONS AT RECOVERY WELL RW-1D (RW-2D WAS OFF-LINE).



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

B NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

Drawn By: EGC
 Checked: EKR 12/26/2024
 Approved: RY 1/24/2025
 DWG Name: 314V5608.010-090

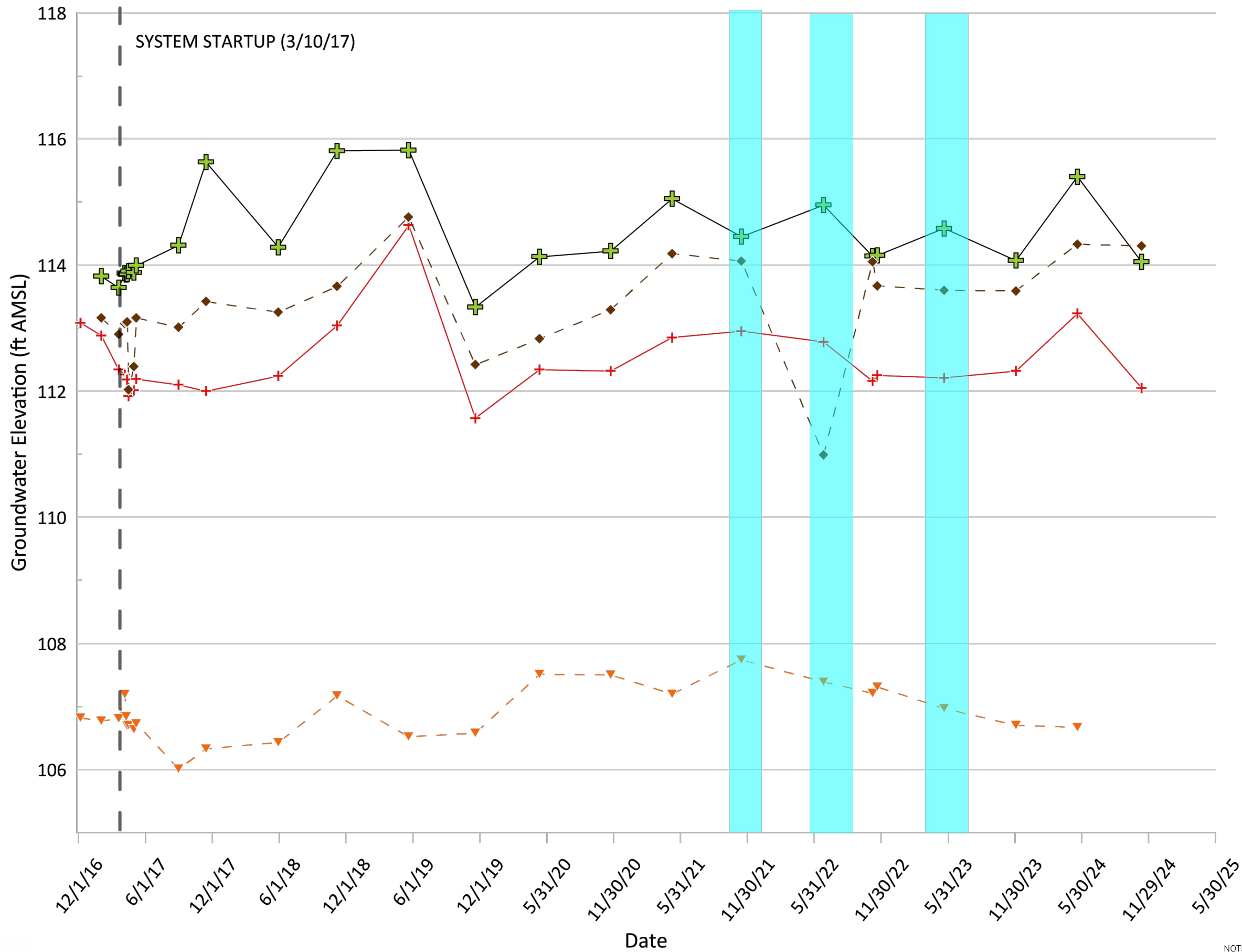
FORMER KOP-FLEX FACILITY SITE
 HANOVER, MARYLAND
 PREPARED FOR
 EMERSUB 16 LLC
 ST. LOUIS, MISSOURI

FIGURE 11
 POTENTIOMETRIC SURFACE CONTOUR MAP FOR
 THE DEEP ZONE OF THE LOWER PATAPSCO
 AQUIFER (NOVEMBER 2024)

WSP USA Inc.
 13530 DOLLIES TECHNOLOGY DR
 SUITE 300
 HERNDON, VA 20171
 TEL: +1 703.709.6500

R:\ACAD\CADD\CLIENT\Emerson\MD_Hanover\31405608.010\CAD\314V5608.010-093.dwg 2/18/2025 2:26 PM USEC01012

B



LEGEND

- + MW-01
- ▼ MW-03
- + MW-16
- ◆ MW-20

PERIOD OF EXTENDED SYSTEM SHUTDOWN

Drawn By: EGC
 Checked: EGR 2/18/2025
 Approved: RY
 DWG Name: 314V5608.010-093

FORMER KOP-FLEX FACILITY SITE
 HANOVER, MARYLAND
 PREPARED FOR
 EMERSUB 16 LLC
 ST. LOUIS, MISSOURI

FIGURE 12
 HYDROGRAPHS OF WELLS SCREENED IN THE
 SHALLOW ZONE OF THE LOWER PATAPSCO AQUIFER
 (2016-2024)

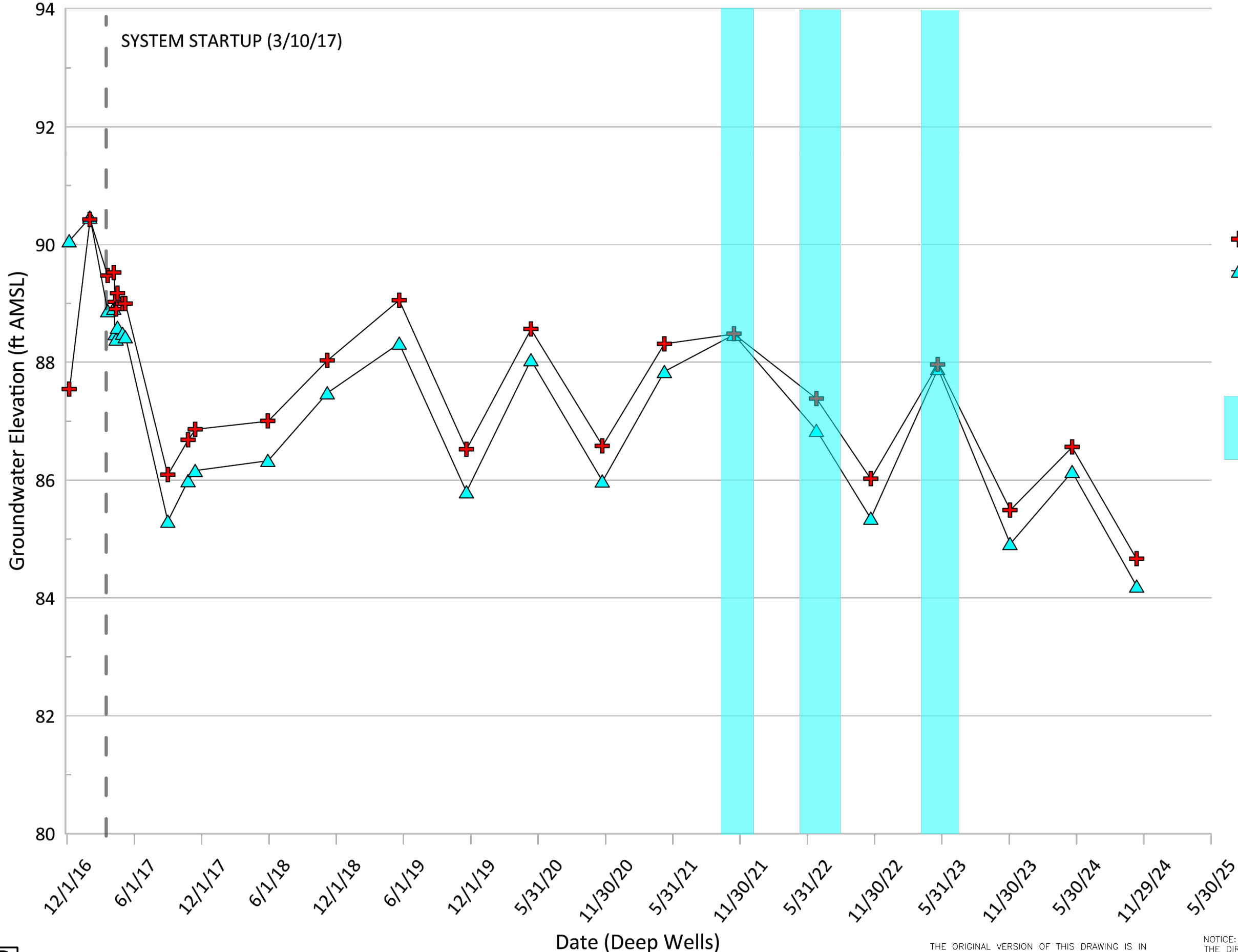
WSP USA Inc.
 13530 DULLES TECHNOLOGY DR
 SUITE 300
 HERNDON, VA 20171
 TEL: +1 703.709.6500

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

R:\ACAD\CADD\CLIENT\Emerson\MD_Hanover\31405608.010\CAD\314V5608.010-093.dwg 6/26/2025 8:24 AM USEC01012

B



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

Drawn By: EGC
 Checked: EGC 2/18/2025
 Approved: RY
 DWG Name: 314V5608.010-093

FORMER KOP-FLEX FACILITY SITE
 HANOVER, MARYLAND
 PREPARED FOR
 EMERSUB 16 LLC
 ST. LOUIS, MISSOURI

FIGURE 13
 HYDROGRAPHS OF WELLS SCREENED IN THE
 DEEP ZONE OF THE LOWER PATAPSCO AQUIFER
 (2016-2024)

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

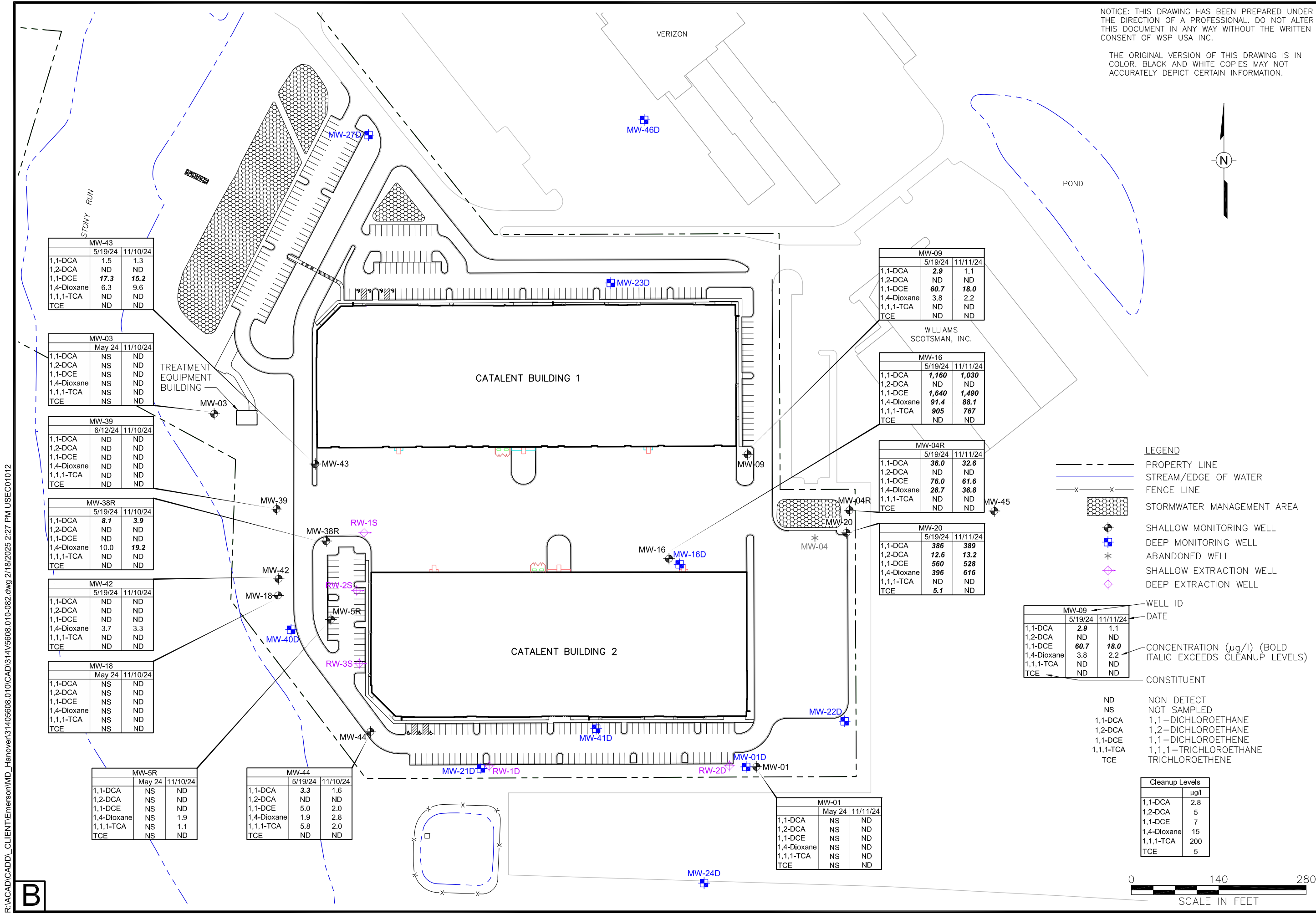
THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

Drawn By: EGC
 Checked: ELL 2/14/2025
 Approved: RY
 DWG Name: 314V5608.010-082

FORMER KOP-FLEX FACILITY SITE
 HANOVER, MARYLAND
 PREPARED FOR
 EMERSUB 16 LLC
 ST. LOUIS, MISSOURI

FIGURE 14
 SAMPLING RESULTS FOR THE MONITORING WELLS
 SCREENED IN THE SHALLOW ZONE OF THE
 LOWER PATAPSCO AQUIFER (2024)

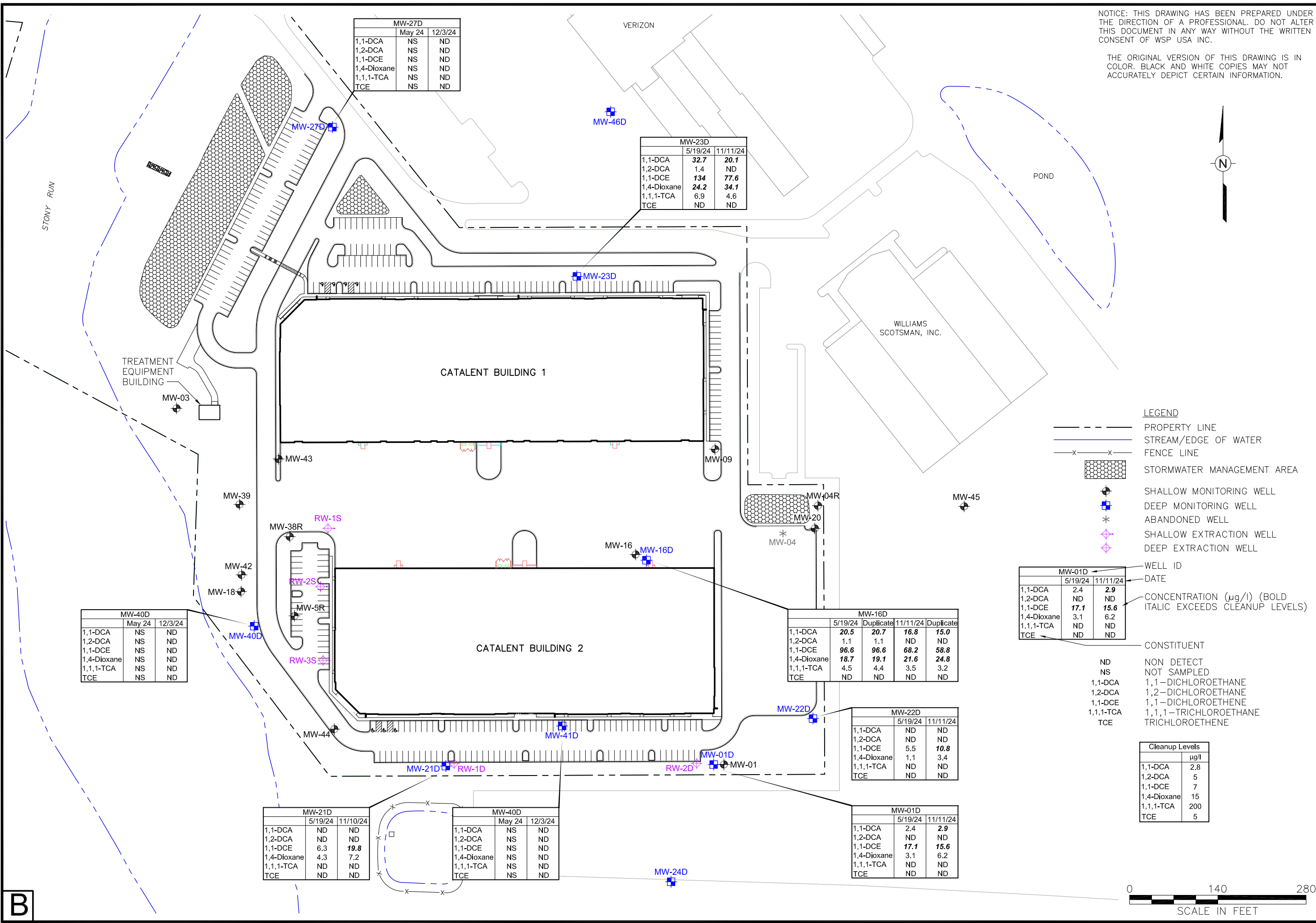
WSP USA Inc.
 13530 DULLES TECHNOLOGY DR
 SUITE 300
 HERNDON, VA 20171
 TEL: +1 703.703.6500



R:\ACAD\CADD\Clients\Emerson\MD_Hanover\314V5608.010\CAD\314V5608.010-082.dwg 2/18/2025 2:27 PM USEC01012

B

R:\ACAD\CADD\Clients\Emerson\MD_Hanover\314V5608.010\CAD\314V5608.010-082.dwg 2/18/2025 2:27 PM USEC01012



NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

Drawn By: EGC
 Checked: EGR 2/14/2025
 Approved: RY
 DWG Name: 314V5608.010-082

FORMER KOP-FLEX FACILITY SITE
 HANOVER, MARYLAND
 PREPARED FOR
 EMERSUB 16 LLC
 ST. LOUIS, MISSOURI

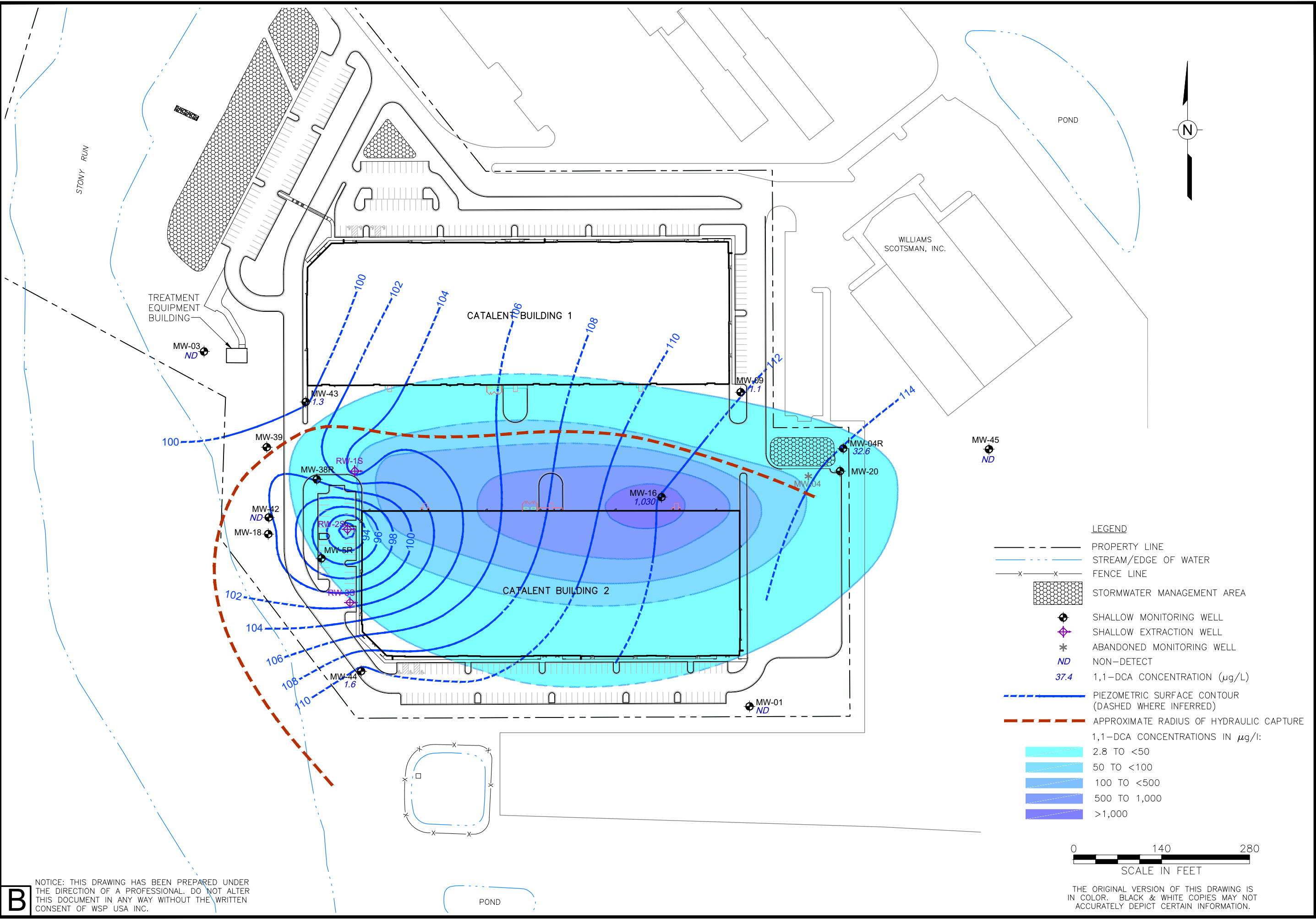
FIGURE 15
 SAMPLING RESULTS FOR THE MONITORING WELLS
 SCREENED IN THE DEEP ZONE OF THE
 LOWER PATAPSCO AQUIFER (2024)

WSP USA Inc.
 13530 DULLES TECHNOLOGY DR
 SUITE 500
 HERNDON, VA 20171
 TEL: +1 703.709.6500



B

R:\ACADD\CADD\Clients\emerson\MD_Hanover\31405608.010\CAD\314V5608.010-094.dwg 2/26/2025 9:20 AM USEC01012



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

Drawn By: EGC
 Checked: EGR 2/18/2025
 Approved: RY
 DWG Name: 314V5608.010-094

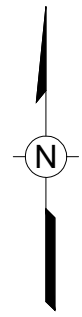
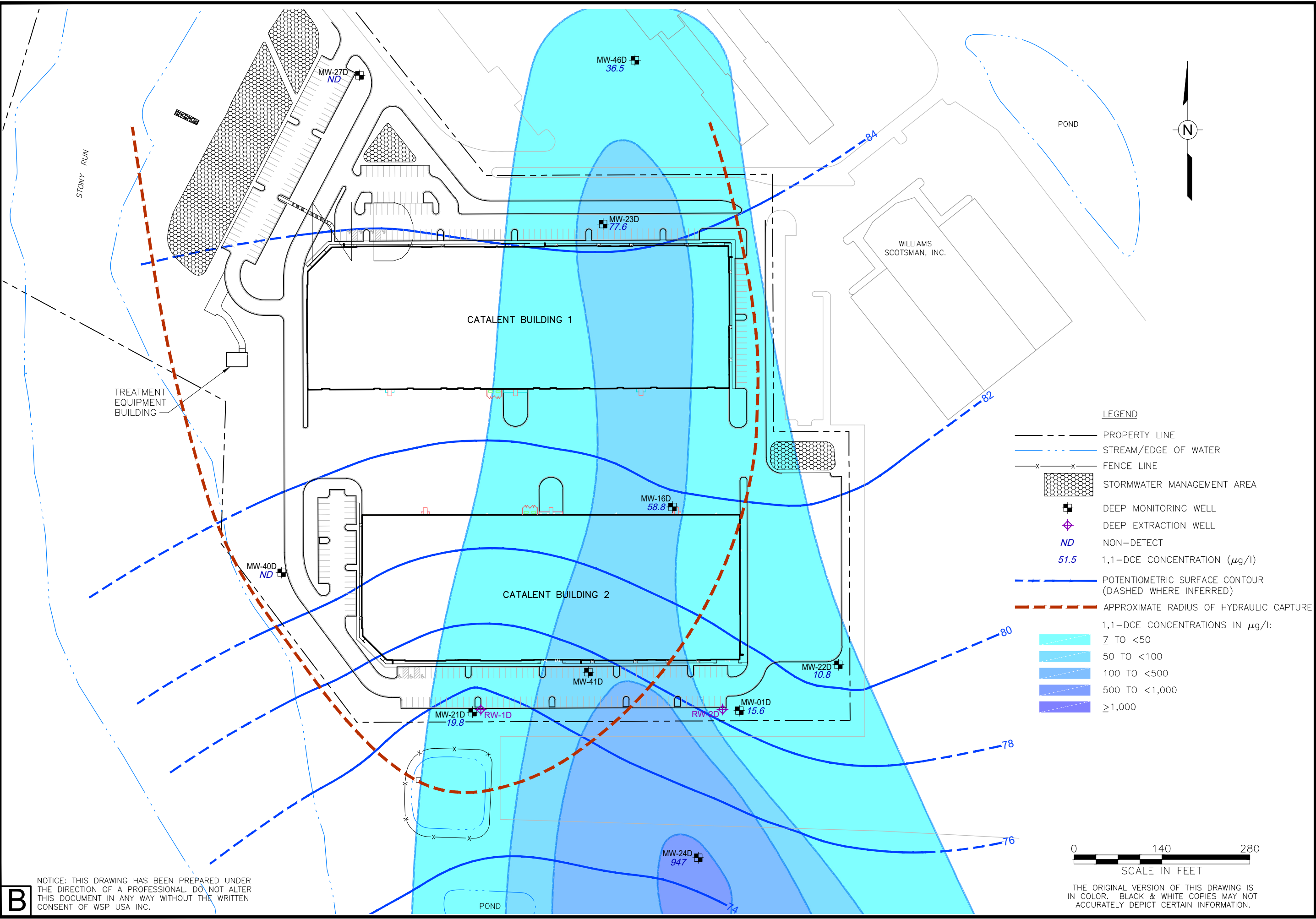
FORMER KOP-FLEX FACILITY SITE
 HANOVER, MARYLAND
 PREPARED FOR
 EMERSUB 16 LLC
 ST. LOUIS, MISSOURI

FIGURE 16
 1,1-DCA ISO-CONCENTRATIONS DURING GROUNDWATER EXTRACTION FROM THE SHALLOW PORTION OF THE LOWER PATAPSCO AQUIFER (NOVEMBER 2024)

WSP USA Inc.
 13550 DOLLIES TECHNOLOGY DR
 SUITE 500
 HERNDON, VA 20171
 TEL: +1 703.709.6500

B NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

R:\ACAD\CADD\CLIENT\Emerson\MD_Hanover\31405608.010\CAD\314V5608.010-097.dwg 2/18/2025 6:11 PM USEC01012



LEGEND

- PROPERTY LINE
 - - - - - STREAM/EDGE OF WATER
 - x - x - FENCE LINE
 - [Hatched Box] STORMWATER MANAGEMENT AREA
 - [Square with Cross] DEEP MONITORING WELL
 - [Square with Diamond] DEEP EXTRACTION WELL
 - ND NON-DETECT
 - 51.5 1,1-DCE CONCENTRATION ($\mu\text{g/l}$)
 - - - - - POTENTIOMETRIC SURFACE CONTOUR (DASHED WHERE INFERRED)
 - - - - - APPROXIMATE RADIUS OF HYDRAULIC CAPTURE
- 1,1-DCE CONCENTRATIONS IN $\mu\text{g/l}$:
- [Light Blue Box] \geq TO <50
 - [Medium Light Blue Box] 50 TO <100
 - [Medium Blue Box] 100 TO <500
 - [Dark Blue Box] 500 TO $<1,000$
 - [Purple Box] $\geq 1,000$



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A PROFESSIONAL. DO NOT ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

B

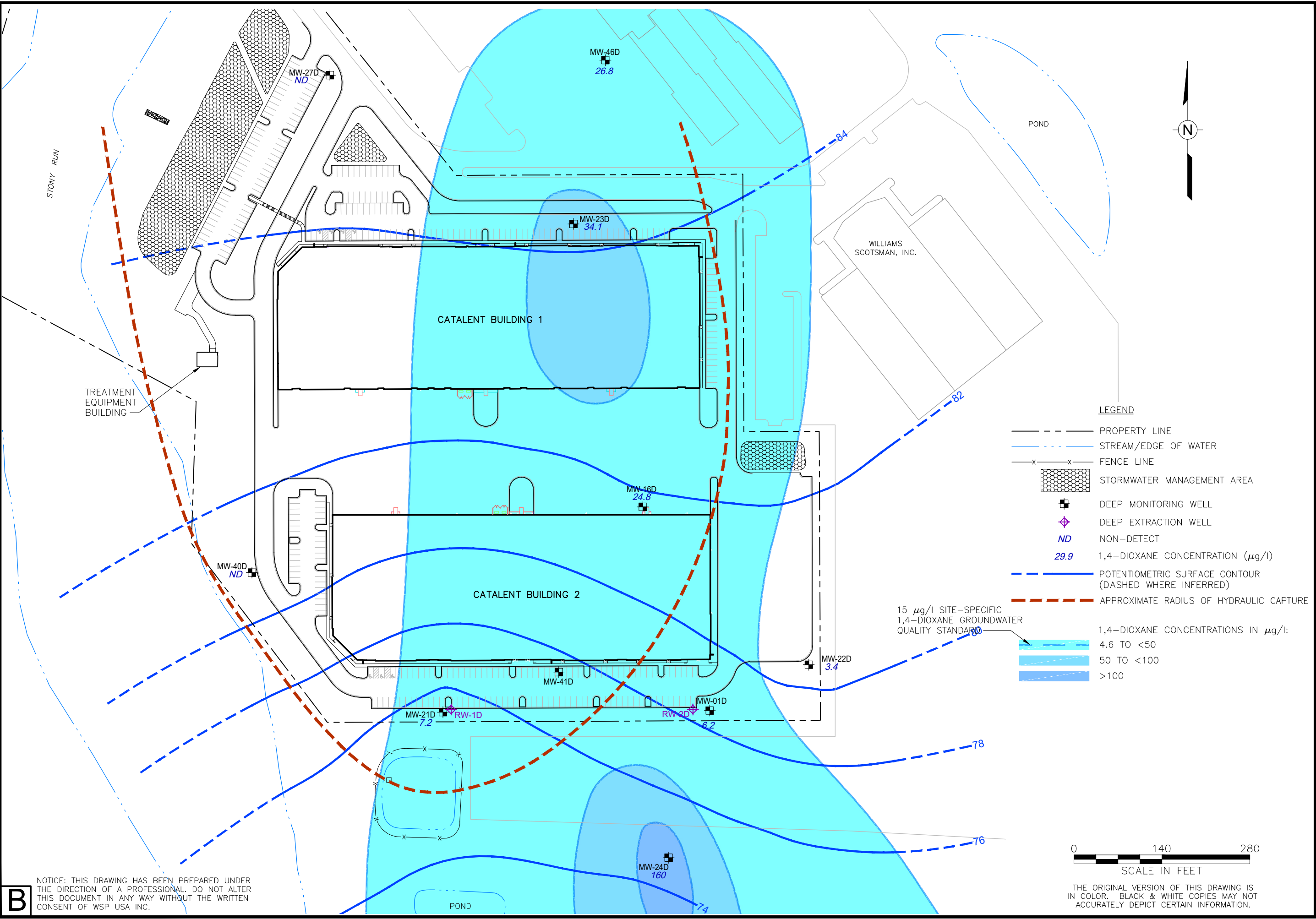
Drawn By: EGC
 Checked: EGR 2/18/2025
 Approved: RY
 DWG Name: 314V5608.010-097

FORMER KOP-FLEX FACILITY SITE
 HANOVER, MARYLAND
 PREPARED FOR
 EMERSUB 16 LLC
 ST. LOUIS, MISSOURI

FIGURE 19
 1,1-DCE ISO-CONCENTRATIONS DURING GROUNDWATER EXTRACTION FROM THE DEEPER PORTION OF THE LOWER PATAPSCO AQUIFER (NOVEMBER 2024)

WSP USA Inc.
 13530 DOLLIES TECHNOLOGY DR
 SUITE 300
 HERNDON, VA 20171
 TEL: +1 703.709.6500

R:\ACAD\CADD\CLIENT\Emerson\MD_Hanover\314V5608.010\CAD\314V5608.010-098.dwg 2/18/2025 6:11 PM USEC01012



Drawn By: EGC
 Checked: ELL 2/18/2025
 Approved: RY
 DWG Name: 314V5608.010-098

FORMER KOP-FLEX FACILITY SITE
 HANOVER, MARYLAND
 PREPARED FOR
 EMERSUB 16 LLC
 ST. LOUIS, MISSOURI

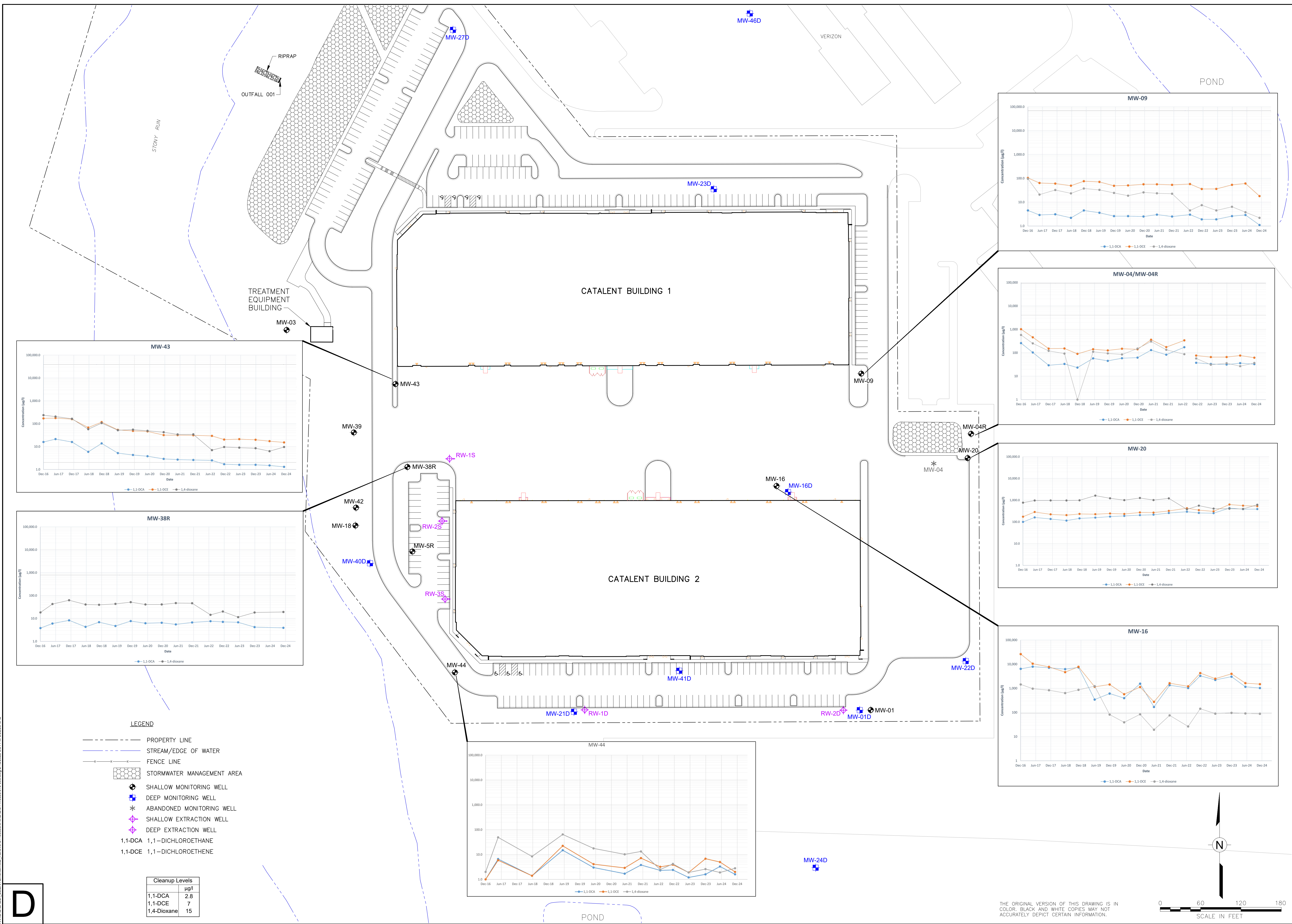
FIGURE 20
 1,4-DIOXANE ISO-CONCENTRATIONS DURING
 GROUNDWATER EXTRACTION FROM THE DEEPER
 PORTION OF THE LOWER PATAPSCO AQUIFER
 (NOVEMBER 2024)

WSP USA Inc.
 13530 DOLLIES TECHNOLOGY DR
 SUITE 300
 HERNDON, VA 20171
 TEL: +1 703.709.6500

- LEGEND
- PROPERTY LINE
 - - - - - STREAM/EDGE OF WATER
 - x-x-x- FENCE LINE
 - [Hatched Box] STORMWATER MANAGEMENT AREA
 - [Square with Cross] DEEP MONITORING WELL
 - [Square with Diamond] DEEP EXTRACTION WELL
 - ND NON-DETECT
 - 29.9 1,4-DIOXANE CONCENTRATION ($\mu\text{g/l}$)
 - - - - - POTENTIOMETRIC SURFACE CONTOUR (DASHED WHERE INFERRED)
 - - - - - APPROXIMATE RADIUS OF HYDRAULIC CAPTURE
- 15 $\mu\text{g/l}$ SITE-SPECIFIC 1,4-DIOXANE GROUNDWATER QUALITY STANDARD
- 1,4-DIOXANE CONCENTRATIONS IN $\mu\text{g/l}$:
- [Light Blue Box] 4.6 TO <50
 - [Medium Blue Box] 50 TO <100
 - [Dark Blue Box] >100

0 140 280
 SCALE IN FEET

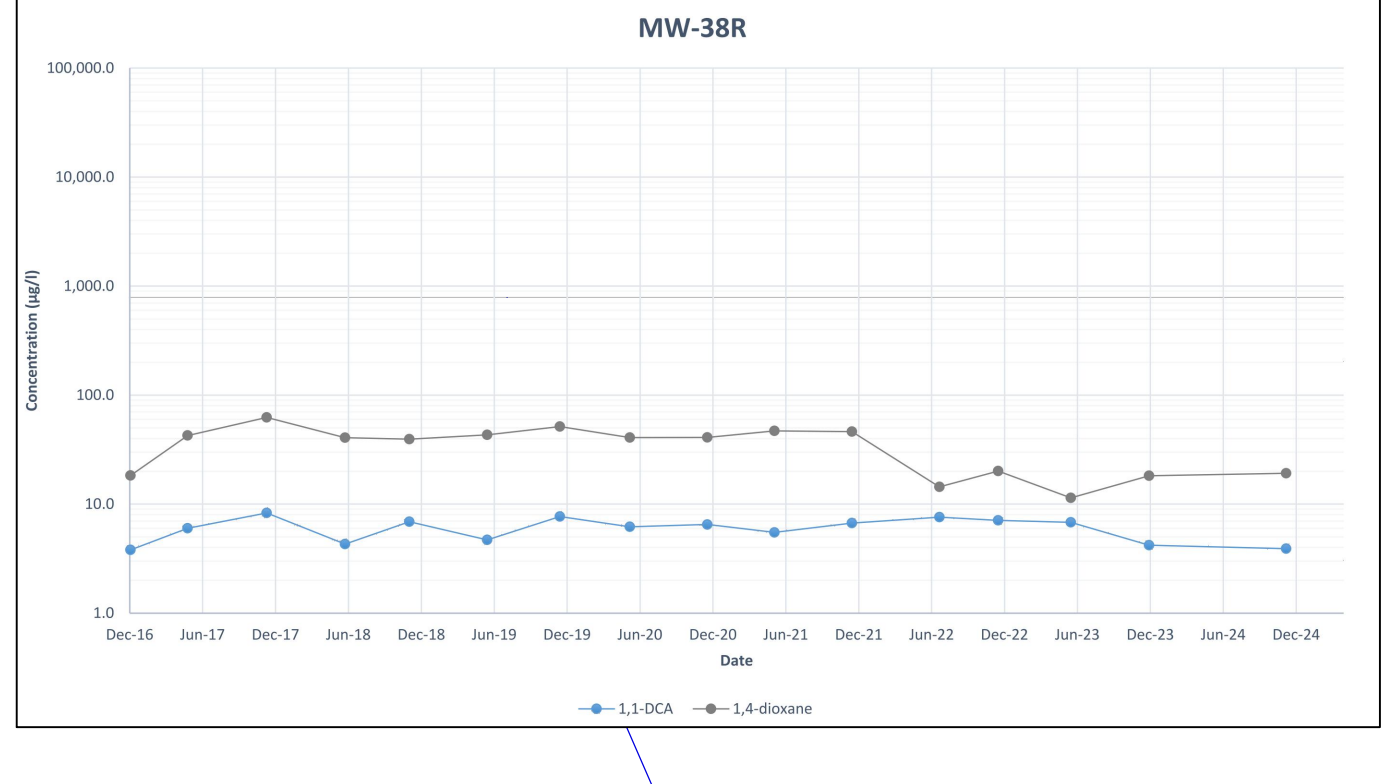
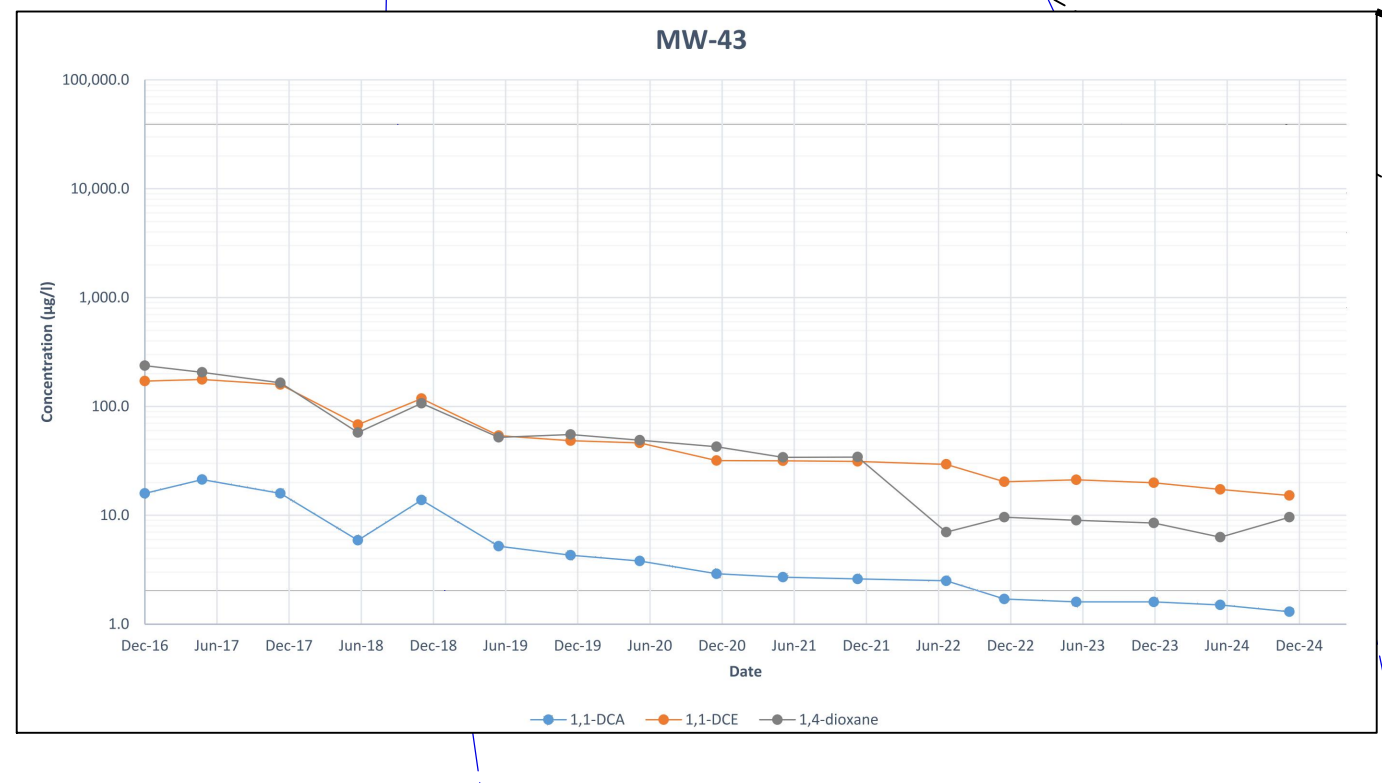
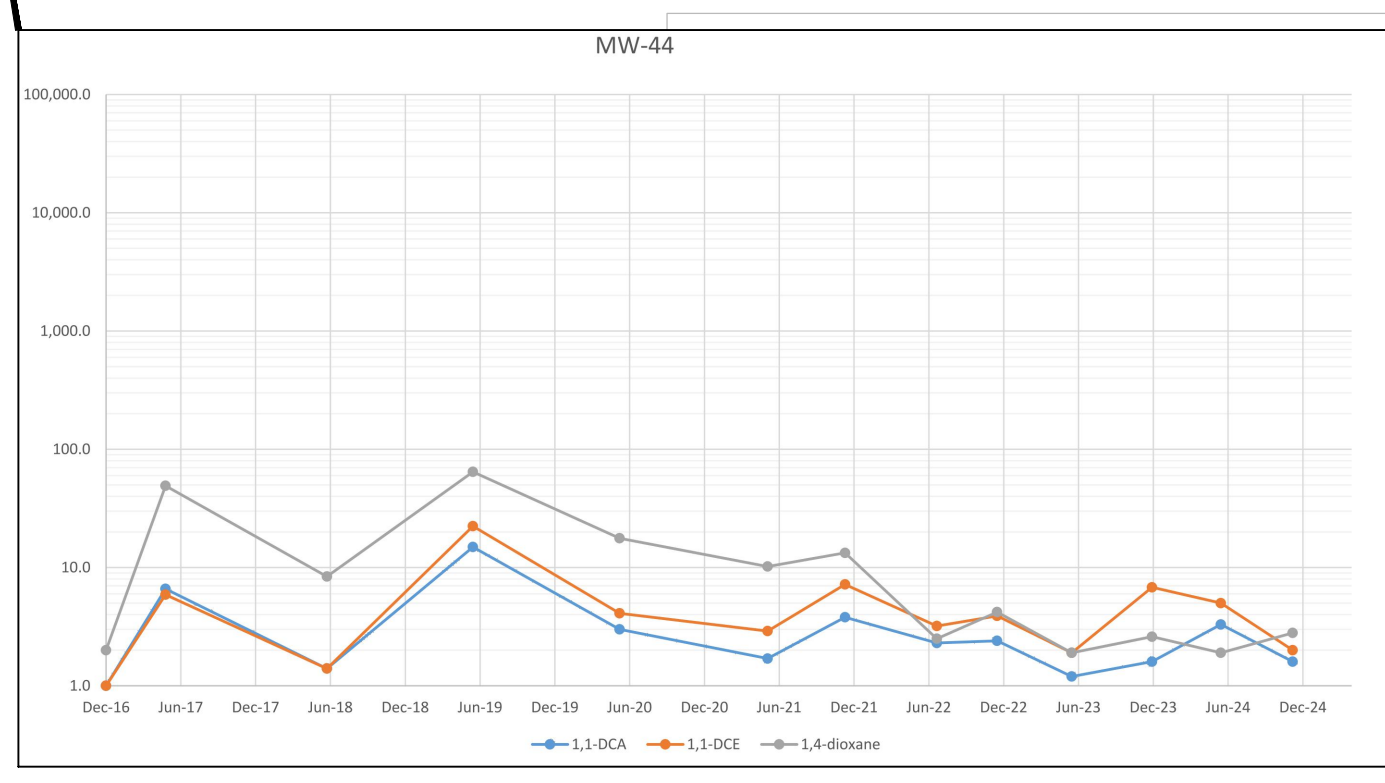
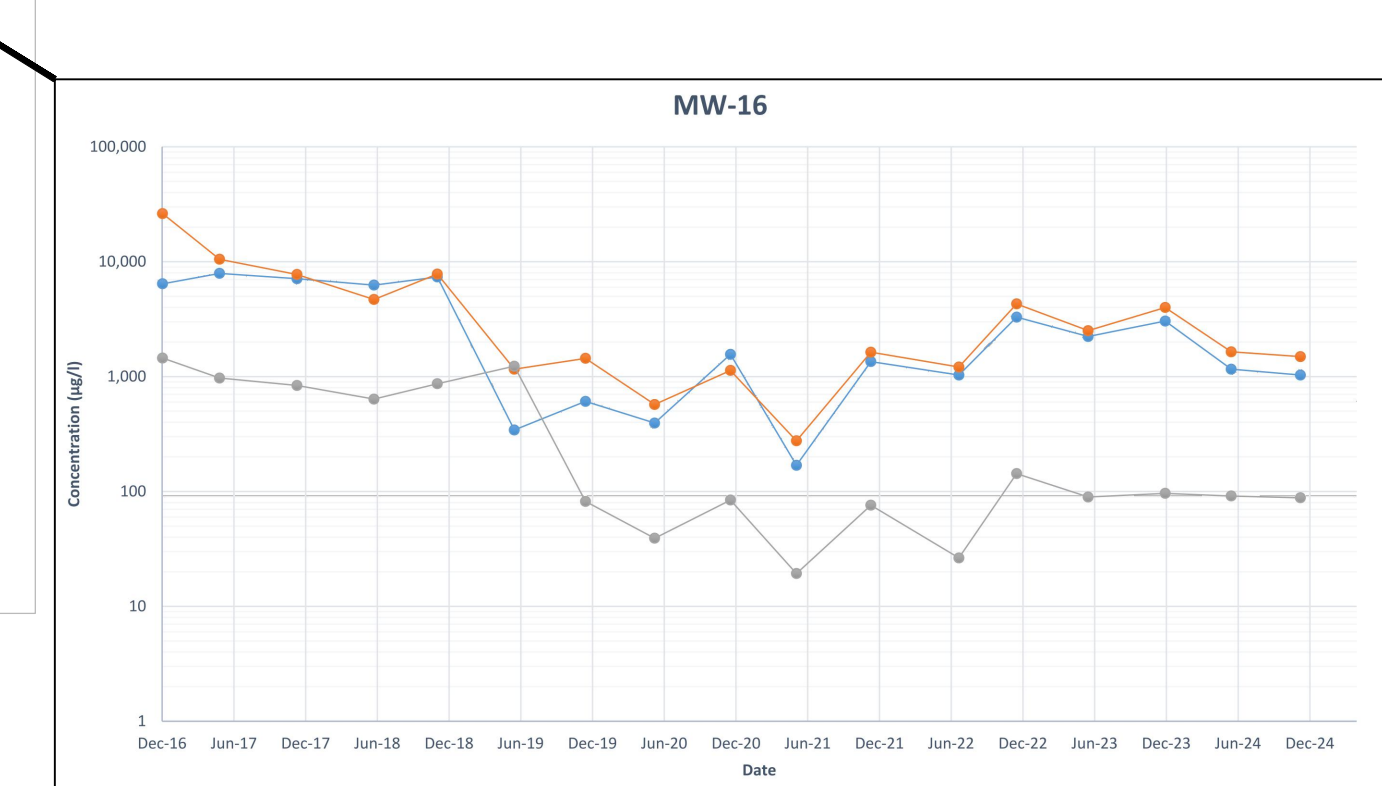
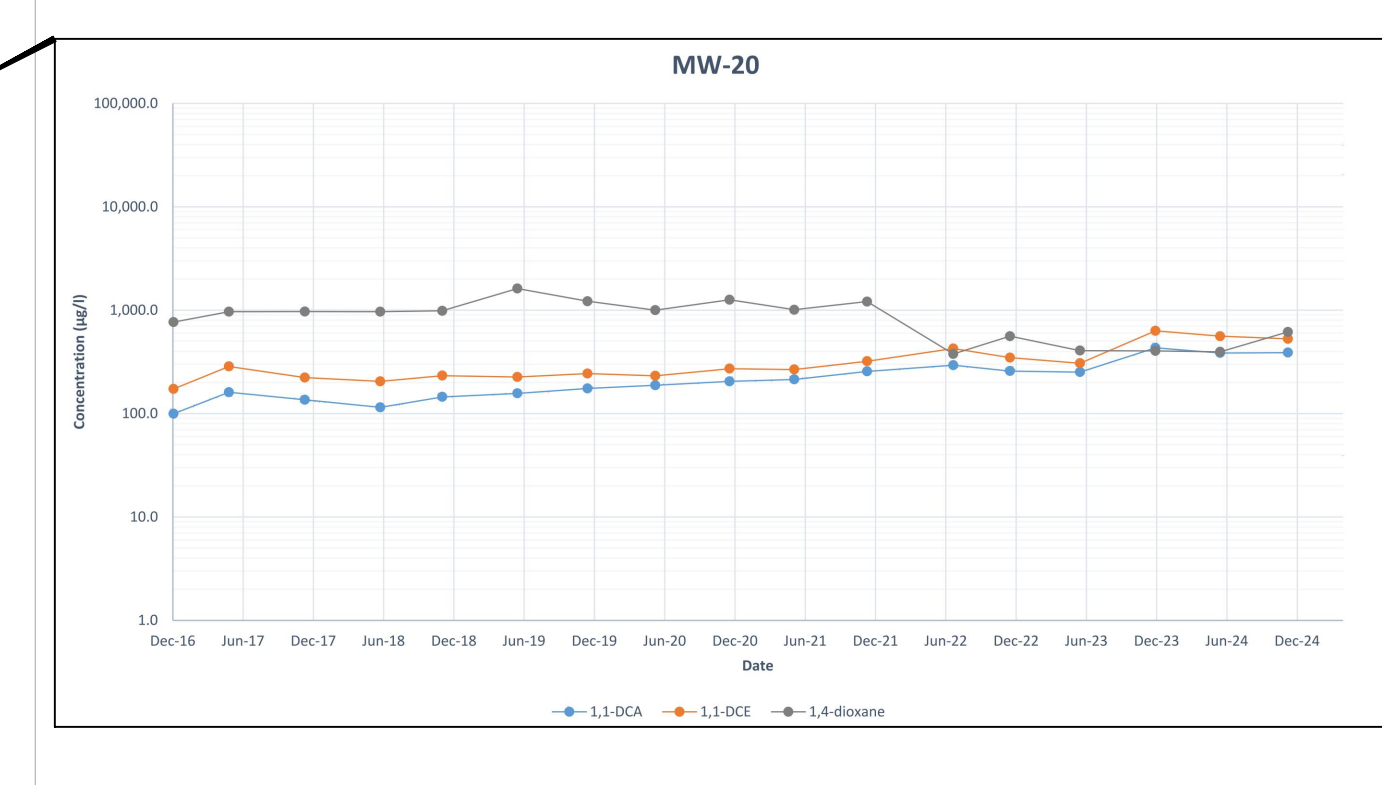
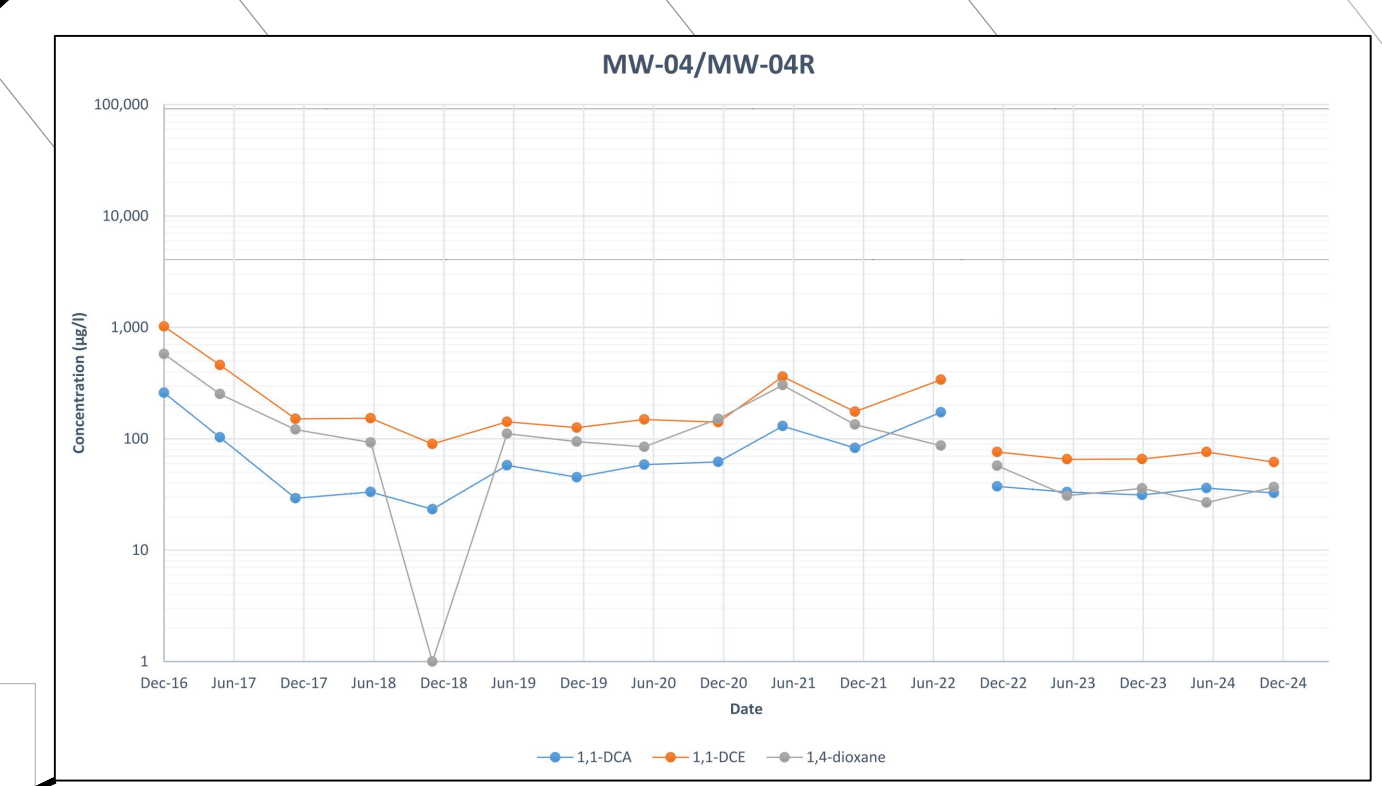
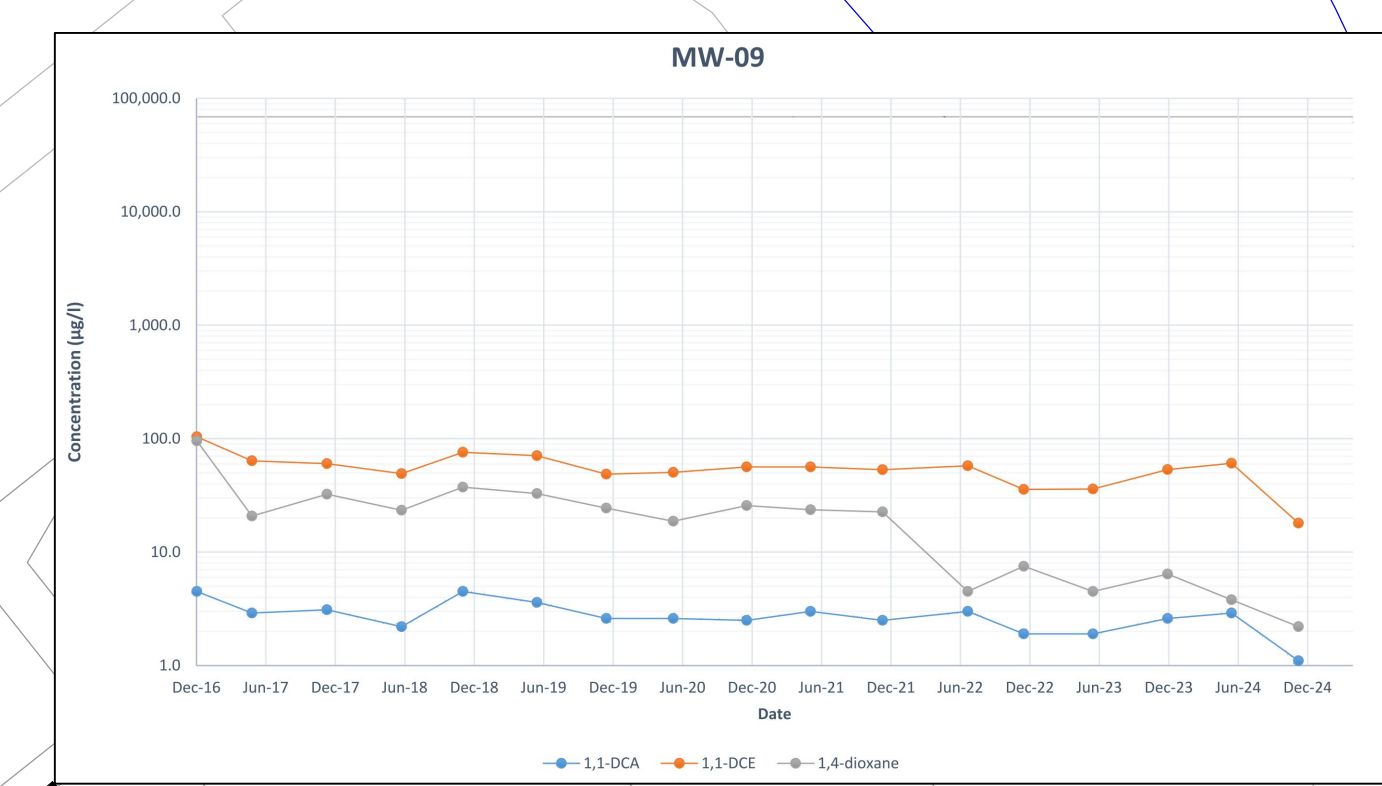
THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.



LEGEND

- PROPERTY LINE
- STREAM/EDGE OF WATER
- FENCE LINE
- STORMWATER MANAGEMENT AREA
- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- * ABANDONED MONITORING WELL
- ◇ SHALLOW EXTRACTION WELL
- ◇ DEEP EXTRACTION WELL
- 1,1-DCA 1,1-DICHLOROETHANE
- 1,1-DCE 1,1-DICHLOROETHENE

Cleanup Levels	
Compound	µg/l
1,1-DCA	2.8
1,1-DCE	7
1,4-Dioxane	15



REVISIONS	
REV	DESCRIPTION

DRAWN BY	ECC	CHECKED	SAB	DATE	2/18/2025
APPROVED					

PREPARING AND/OR OBTAINING OF ANY PROFESSIONAL SEAL OR LICENSE FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO REGULATION BY ANY STATE AGENCIES. ANY REVISIONS TO THIS DRAWING SHALL BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF THE CLIENT AND SUPPLIERS WITHOUT THE WRITTEN CONSENT OF WSP USA INC.

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE REGULATION OF STATE LAW FOR ANY PERSONS, UNLESS ACTING AS AN ENGINEER OR ARCHITECT. ANY PERSONS ACTING AS AN ENGINEER OR ARCHITECT SHALL BE RESPONSIBLE TO ALTER THIS DOCUMENT IN ANY WAY.

FORMER KOP-FLEX FACILITY SITE
 HANOVER, MARYLAND
 PREPARED FOR
EMERSON
 ST. LOUIS, MISSOURI

WSP USA Inc.
 13530 DULLES TECHNOLOGY DR., SUITE 300
 HERNDON, VA 20171
 TEL: +1 703.709.6500

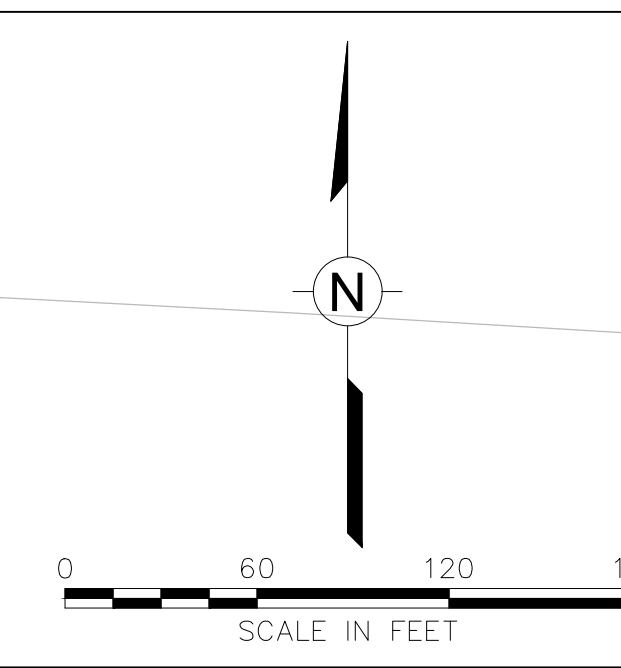
FIGURE 21

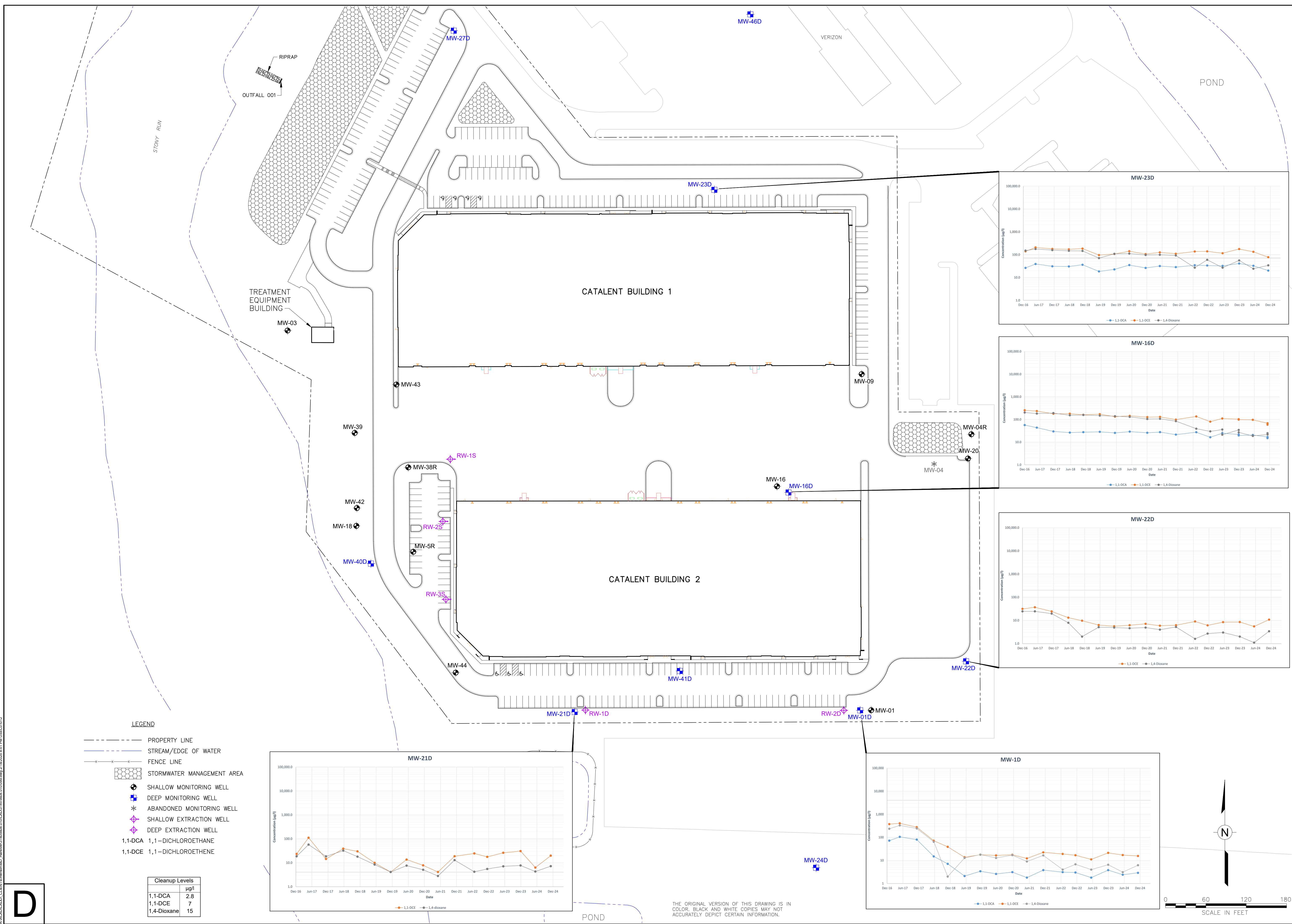
Drawing Number
314V5608.010-099

D

R:\CADD\CADD\CLIENT\emerson\314V5608.010\314V5608.010.dwg 2/18/2025 8:51 AM LJB01012

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.





LEGEND

- PROPERTY LINE
- STREAM/EDGE OF WATER
- FENCE LINE
- STORMWATER MANAGEMENT AREA
- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- * ABANDONED MONITORING WELL
- ◇ SHALLOW EXTRACTION WELL
- ◇ DEEP EXTRACTION WELL
- 1,1-DCA 1,1-DICHLOROETHANE
- 1,1-DCE 1,1-DICHLOROETHENE

Compound	Cleanup Levels (µg/l)
1,1-DCA	2.8
1,1-DCE	7
1,4-Dioxane	15

D

R:\A\CA\CAD\CAD\CLIENT\emerson\13530\13530.dwg 2/10/2025 8:11 PM LJB02012

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK AND WHITE COPIES MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

REV	DESCRIPTION	DATE

SEAL

DATE

DRAWN BY: ECG
 CHECKED: SJK
 APPROVED: KJ

2/10/2025

PREPARED FOR: EMERSON
 HANOVER, MARYLAND
 ST. LOUIS, MISSOURI

HISTORICAL 1,1-DCA, 1,1-DCE, AND 1,4-DIOXANE CONCENTRATION PLOTS FOR THE MONITORING WELLS SCREENED IN THE DEEP ZONE OF THE LOWER PATAPSCO AQUIFER (2016-2024)

FORMER KOP-FLEX FACILITY SITE

wsp

WSP USA Inc.
 13530 DULLES TECHNOLOGY DR., SUITE 300
 HERNDON, VA 20171
 TEL: +1 703.709.6500

FIGURE 22

Drawing Number
314V5608.010-099

TABLES



Table 1

Summary of System Discharge and Mass Removal
Former Kop-Flex Facility
Hanover, Maryland (a)

Year	Month	Total Discharged Volume Gals	Runtime Efficiency Annual Percentage	Water Flow Rate (b) GPM AVG	Estimated VOCs Removed		Estimated 1,4-Dioxane Removed	
					Mass lbs	Volume Gals	Mass lbs	Volume Gals
2017	Total	26,606,357	--	61.5	86.0	8.5	42.7	5.0
2018	Total	33,390,900	95	67.5	111.1	11.0	41.3	4.8
2019	Total	33,566,025	91	69.9	95.0	9.4	36.3	4.2
2020	Total	27,711,625	77	70.5	68.1	6.8	31.5	3.7
2021	Total	22,454,076	62	69.7	45.8	4.5	19.7	2.3
2022	Total	21,788,865	63	68.4	52.6	5.2	20.4	2.4
2023	Total	16,497,114	50	58.8	40.6	4.0	13.8	1.6
2024	January	2,645,975	78	59.7	8.44	0.84	1.79	0.21
	February	2,520,073		61.9	8.03	0.80	1.67	0.19
	March	2,700,067		60.6	8.61	0.86	1.83	0.21
	April	2,599,423		60.2	6.92	0.69	2.54	0.30
	May	2,175,770		48.7	5.79	0.58	2.12	0.25
	June	1,525,286		35.3	4.06	0.40	1.49	0.17
	July	480,192		10.8	1.52	0.15	0.30	0.04
	August	229,322		5.1	0.73	0.07	0.14	0.02
	September	635,778		14.7	2.01	0.20	0.40	0.05
	October	1,205,088		27.0	4.05	0.40	0.97	0.11
	November	1,401,748		32.4	4.54	0.45	1.09	0.13
	December	1,029,363		23.1	3.31	0.33	0.80	0.09
2024	Total	19,148,085	78	36.6	58.0	5.8	15.1	1.8
Historical Average (c)		26,002,137	73	67	71	7	29	3
Cumulative		201,163,046	--	--	557.2	55.3	220.9	25.7

Notes:

a/ GPM = gallons per minute; AVG = average; lbs = pounds; gals = gallons.

b/ Average water flow rate in GPM is based on fully operational days only.

Flow rates from April, May, June, and July 2023 were not used in the calculation of the total average flow rate for 2023 as the System was nonoperational for the entirety of these four months.

c/ Historical averages calculated using values from 2017 through 2023.

Table 2

**Summary of Recovery Well Flow Rates and Volumes
Former Kop-Flex Facility
Hanover, Maryland (a)**

Year	Month	Average Recovery Well Flow Rates (GPM)					
		RW-1S	RW-2S	RW-3S	RW-1D	RW-2D	Total
2018	Total	4.5	1.8	2.4	28.4	28.7	65.8
2019	Total	4.9	1.7	1.4	28.5	29.3	65.8
2020	Total	4.2	2.0	1.8	21.7	24.4	54.1
2021	Total	3.0	1.6	1.6	18.1	19.1	43.5
2022	Total	2.2	1.7	0.8	16.9	18.2	39.7
2023	Total	1.2	1.5	0	15.9	13.9	32.5
2024	January	1.5	0.1	0.0	30.9	25.6	58.2
	February	1.5	2.4	0.0	31.3	25.7	60.9
	March	1.2	0.4	0.0	31.4	25.6	58.7
	April	1.7	0.9	0.0	31.0	25.7	59.3
	May	3.3	0.2	0.0	30.8	14.5	48.8
	June	4.5	0.0	0.0	31.2	0.0	35.7
	July	4.1	0.0	0.0	31.3	0.0	35.4
	August	3.9	0.0	2.1	30.7	0.0	36.8
	September	3.9	0.0	1.8	30.8	0.0	36.5
	October	3.6	0.9	1.7	29.8	0.0	36.0
	November	2.4	3.1	0.0	26.1	0.0	31.7
	December	2.1	3.0	1.2	28.5	8.6	43.4
2024	Total	2.8	0.9	0.6	30.3	10.5	45.1
Historical Average (b)		3.3	1.7	1.3	21.6	22.3	50.2

Year	Month	Summary of Recovery Well Total Volumes (MG)					
		RW-1S	RW-2S	RW-3S	RW-1D	RW-2D	Total
2017	Total	1.66	1.32	1.01	10.63	12.22	26.82
2018	Total	2.35	0.94	1.26	14.94	15.10	34.59
2019	Total	2.49	0.89	0.72	14.61	15.05	33.76
2020	Total	2.21	1.04	0.93	11.33	12.85	28.37
2021	Total	1.60	0.86	0.85	9.33	10.10	22.74
2022	Total	1.19	0.92	0.42	9.06	9.86	21.45
2023	Total	0.64	0.73	0.00	8.17	7.19	16.73
2024	January	0.05	0.00	0.00	1.34	1.11	2.5
	February	0.04	0.08	0.00	0.69	0.83	1.6
	March	0.01	0.01	0.00	1.42	0.97	2.4
	April	0.07	0.03	0.00	1.04	0.86	2.0
	May	0.17	0.01	0.00	1.84	0.77	2.8
	June	0.16	0.00	0.00	1.12	0.00	1.3
	July	0.06	0.00	0.01	0.47	0.00	0.5
	August	0.01	0.00	0.00	0.05	0.00	0.1
	September	0.09	0.00	0.05	0.63	0.00	0.8
	October	0.13	0.00	0.06	1.17	0.00	1.4
	November	0.09	0.11	0.00	1.03	0.00	1.2
	December	0.03	0.09	0.05	0.74	0.06	1.0
2024	Total	0.92	0.34	0.17	11.54	4.61	17.58
Percentage of Total 2024 Flow		5%	1%	0%	23%	9%	--
Historical Average (b)		1.73	0.96	0.74	11.15	11.77	26.35
Cumulative		12.13	6.70	5.19	78.07	82.37	184.47

Notes:

a/ GPM = gallons per minute and MG = millions of gallons

b/ Historical averages calculated using values from 2018 through 2023.

Table 3

Groundwater Treatment System - 2024 Results for Compounds of Concern
Former Kop-Flex Facility
Hanover, Maryland

Date	VOCs														1,4-Dioxane		Treatment Removal Efficiency (c)	
	1,1-DCE		1,1-DCA		cis-1,2-DCE		1,1,1-TCA		TCE		Other (b)		Total VOCs only		1,4-Dioxane			
	Influent VSP-1	Effluent VSP-4	Influent VSP-1	Effluent VSP-4	Influent VSP-1	Effluent VSP-4	Influent VSP-1	Effluent VSP-4	Influent VSP-1	Effluent VSP-4	Influent VSP-1	Effluent VSP-4	Influent VSP-1	Effluent VSP-4	Influent VSP-1	Effluent VSP-4	Total VOCs	1,4-Dioxane
NPDES Discharge Permit Limits	7		2.8		70		200		5		-		-		15		-	
	-		-		-		-		-		-		100		15 (Report Only)		-	
Former Kop-Flex Water Treatment System																		
1/10/2024	290	1.0 U	79	1.0 U	2.7	NA	13	1.0 U	1.3	1.0 U	14.85	ND	400.9	ND	81	1.0 U	100%	100%
2/7/2024	NS	1.0 U	NS	1.0 U	NS	NA	NS	1.0 U	NS	1.0 U	NS	ND	NS	ND	NS	1.4	100%	98%
3/14/2024	NS	1.0 U	NS	1.0 U	NS	NA	NS	1.0 U	NS	1.0 U	NS	ND	NS	ND	NS	1.0 U	100%	100%
4/4/2024	240	1.0 U	62	1.0 U	2	NA	17	1.0 U	1.0	1.0 U	10.25	ND	332.3	ND	117	1.0 U	100%	100%
5/13/2024	NS	1.0 U	NS	1.0 U	NS	NA	NS	1.0 U	NS	1.0 U	NS	ND	NS	ND	NS	2.0	100%	98%
6/7/2024	NS	1.0 U	NS	1.0 U	NS	NA	NS	1.0 U	NS	1.0 U	NS	ND	NS	ND	NS	1.0 U	100%	100%
7/3/2024	280	2.4	81	0.67 J	3	NA	18	1.0 U	1.3	1.0 U	11.7	1.72 J	395.0	4.79	75.3	3.1	99%	96%
8/28/2024	NS	1.0 U	NS	1.0 U	NS	NA	NS	1.0 U	NS	1.0 U	NS	ND	NS	ND	NS	1.0 U	100%	100%
9/12/2024	NS	1.0 U	NS	1.0 U	NS	NA	NS	1.0 U	NS	1.0 U	NS	ND	NS	ND	NS	1.0 U	100%	100%
10/18/2024	300	1.0 U	85	1.0 U	3.2	NA	18	1.0 U	1.3	1.0 U	13.9	ND	421.4	ND	96.9	7.1	100%	93%
11/18/2024	NS	1.0 U	NS	1.0 U	NS	NA	NS	1.0 U	NS	1.0 U	NS	ND	NS	ND	NS	1.0 U	100%	100%
12/16/2024	NS	1.0 U	NS	1.0 U	NS	NA	NS	1.0 U	NS	1.0 U	NS	ND	NS	ND	NS	3.0	100%	97%
															Annual Averages:		99.9%	98.5%

Notes:

a/ VOC = volatile organic compound; 1,1-DCE = 1,1-Dichloroethene; 1,1-DCA = 1,1-Dichloroethane; cis-1,2-DCE= cis-1,2-Dichloroethene; 1,1,1-TCA = 1,1,1-Trichloroethane; TCE = Trichloroethene;

VSP-1 = influent sample port; VSP-4 = effluent sample port; NS = not sampled; NA= compound not analyzed; U = compound not detected; ND = compounds not detected.

Results are provided in micrograms per liter (µg/L). Results shown in yellow highlight and bold exceed the comparison standards.

Influent VOCs are analyzed by Method 8260, and Effluent VOCs are analyzed by Method 624 to fulfill the NPDES permit requirement. Influent and Effluent samples are analyzed for 1,4-Dioxane by Method 8260-SIM.

b/ Other includes other VOCs detected in the sample besides the compounds listed (1,1-DCE, 1,1-DCA, cis-1,2-DCE, 1,1,1-TCA, and TCE).

c/ Removal efficiencies for Total VOCs and 1,4-Dioxane are based on ratio of the effluent concentrations to the concentrations in the most recent influent sample.

Table 4

2024 Recovery Well Sampling Results
Former Kop-Flex Facility
Hanover, Maryland (a)

Parameters	Groundwater Cleanup Standards (µg/L)	Well ID: Sampling Date:	Shallow Zone Wells						Deep Zone Wells			
			RW-1S		RW-2S		RW-3S		RW-1D		RW-2D	
			5/19/2024	11/10/2024	5/19/2024	11/10/2024	May-2024	Nov-2024	5/19/2024	11/10/2024	May-2024	Nov-2024
Chloroethane	2,100		19.6	21.0	5.0 U	5.0 U	NS	NS	9.3	14.8	NS	NS
1,1-Dichloroethane	2.8		170	162	67.8	57.2	NS	NS	81.2	100	NS	NS
1,1-Dichloroethene	7		574	623	406	349	NS	NS	329	384	NS	NS
1,4-Dioxane	15.0 (c)		128	176	27.9	179	NS	NS	127	50.4	NS	NS
Methylene Chloride	5		5.0 U	5.0 U	5.2	5.0 U	NS	NS	5.0 U	5.0 U	NS	NS
1,1,1-Trichloroethane	200		50.6	56.3	405	205	NS	NS	17.1	18.3	NS	NS
Vinyl Chloride	3		5.0 U	5.8	5.0 U	5.0 U	NS	NS	5.0 U	5.0 U	NS	NS
Total Detected CVOCs + 1,4-Dioxane			<i>942</i>	<i>1,044</i>	<i>907</i>	<i>790</i>	<i>NS</i>	<i>NS</i>	<i>564</i>	<i>568</i>	<i>NS</i>	<i>NS</i>

a/ U = not detected above the method detection limit

NS = not sampled

Bolded values indicate an exceedence of the Groundwater Quality Standards

All sample concentrations in micrograms per liter (µg/l)

b/ All cleanup standards, except for 1,4-dioxane, are equal to the Maryland Generic Numeric Cleanup Standards for Groundwater,

Type I and II Aquifers, from the State of Maryland Interim Final Guidance (October 2018). Accessed May 27, 2020:

<https://mde.maryland.gov/programs/LAND/MarylandBrownfieldVCP/Documents/www.mde.state.md.us/assets/document/MDE%20Soil%20and%20Groundwater%20Cleanup%20Standards%2010-2018%20Interim%20Final%20Update%203-2.pdf>

c/ Numeric cleanup standards from WSP's October 2, 2015, Response Action Plan, Revision 2.

Table 5

**Historical Recovery Well Sampling Results
Former Kop-Flex Facility
Hanover, Maryland (a, b)**

Well ID	Zone	Sample Date	VOCs (µg/L)		
			1,1-DCA	1,1-DCE	1,4-Dioxane
Groundwater Quality Standard (c)			2.8	7	15 (d)
RW-1S	Shallow	12/7/2016	468	957	1,420
		5/1/2017	711	1,210	1,370
		8/31/2017	192	434	586
		11/14/2017	196	544	580
		5/30/2018	93	381	377
		11/7/2018	105	458	467
		5/21/2019	89.1	384	374
		11/19/2019	77.4	348	299
		5/13/2020	98.2	447	298
		11/22/2020	81.2	344	351
		5/9/2021	113	389	291
		12/29/2021	99.4	368	294
		6/26/2022	144	537	136
		11/20/2022	150	523	158
		12/3/2023	180	775	133
5/19/2024	170	574	128		
11/10/2024	162	623	176		
RW-2S	Shallow	12/6/2016	198	971	1,190
		5/1/2017	95.7	622	949
		8/31/2017	71.7	390	482
		11/14/2017	83.5	401	549
		5/30/2018	33.0	203	200
		11/7/2018	29.1	177	200
		5/21/2019	36.5	244	448
		11/19/2019	22.4	132	111
		5/13/2020	24.9	140	99.8
		11/22/2020	18.6	129	97.0
		5/9/2021	32.4	184	153
		12/29/2021	32.7	184	207
		6/26/2022	133	726	276
		11/20/2022	71.2	393	172
		12/3/2023	72.4	517	139
5/19/2024	67.8	406	27.9		
11/10/2024	57.2	349	179		
RW-3S	Shallow	12/6/2016	4.6	7.2	5.9
		5/1/2017	1.0 U	1.2	3.8
		8/31/2017	1.0 U	1.7	5.9
		11/14/2017	1.8	1.8	10.6
		5/30/2018	1.9	2.6	10.4
		11/7/2018	2.1	2.6	12.4
		5/21/2019	2.1	2.7	15.2
		11/19/2019	2.9	4.7	16.6
		5/12/2020	3.4	5.9	17.2
		11/22/2020	2.8	4.2	13.8
		5/9/2021	2.7	4.2	13.2
		12/29/2021	2.3	3.2	11.1
		6/26/2022	3.1	5.8	5.9
		11/20/2022	2.1	2.2	5.4

Table 5

**Historical Recovery Well Sampling Results
Former Kop-Flex Facility
Hanover, Maryland (a, b)**

Well ID	Zone	Sample Date	VOCs (µg/L)		
			1,1-DCA	1,1-DCE	1,4-Dioxane
Groundwater Quality Standard (c)			2.8	7	15 (d)
RW-1D	Deep	12/6/2016	4.4	39.3	34.4
		5/1/2017	10.4	88.9	51.9
		8/31/2017	15.7	99.7	52.8
		11/14/2017	30.4	174	65.5
		5/30/2018	77.1	392	139
		11/7/2018	78.1	363	155
		5/21/2019	50.8	224	112
		11/19/2019	49.9	240	89.7
		5/12/2020	48.4	202	81.8
		11/22/2020	42.0	179	90.9
		5/9/2021	52.4	204	77.7
		12/29/2021	51.4	202	83.7
		6/26/2022	59.9	242	36.2
		11/20/2022	68.6	237	40.2
12/3/2023	87.3	431	34		
5/19/2024	81.2	329	127		
11/10/2024	100	384	50.4		
RW-2D	Deep	12/6/2016	64.0	257	206
		5/1/2017	56.6	486	214
		8/31/2017	42.4	306	149
		11/14/2017	44.0	295	172
		5/30/2018	24.9	175	106
		11/7/2018	25.4	185	99.8
		5/21/2019	16.9	115	72.7
		11/19/2019	21.6	149	85.5
		5/12/2020	21.4	145	78.2
		11/22/2020	17.9	131	74.5
		5/9/2021	16.8	104	62.8
		12/29/2021	20.2	120	85.1
		6/26/2022	27.1	125	39.2
		11/20/2022	20.4	123	40.0
12/3/2023	22.8	154	29.5		

a/ Select constituents are presented; see Appendix B for complete analytical data.

When completing the Mann-Kendall trend test, all non-detects were set to a common value lower than any of the detected values.

b/ VOCs = volatile organic compounds; µg/L = micrograms per liter; 1,1-DCA = 1,1-dichloroethane; 1,1-DCE = 1,1-dichloroethene; % = percent; ND = non-detect; min D = minimum detection; max D = maximum detection; NT = no trend; NA = not applicable; U = compound not detected above reported limit.

Results shown in **bold** exceed the cleanup standard.

c/ All cleanup standards, except for 1,4-dioxane, are equal to the Maryland Generic Numeric Cleanup Standards for Groundwater, Type I and II Aquifers, from the State of Maryland Interim Final Guidance (October 2018). Accessed May 27, 2020: <https://mde.maryland.gov/programs/land/MarylandBrownfieldVCP/Documents/www.mde.state.md.us/assets/document/MDE%20Soil20and20Groundwater20Cleanup%20Standards%202010-2018%20Interim%20Final%20Update%203-2.pdf>

d/ Numeric cleanup standards from WSP's October 2, 2015, Response Action Plan, Revision 2.

Table 6

**Monitoring Well and Recovery Well Piezometer Construction Information
Former Kop-Flex Facility
Hanover, Maryland (a)**

<u>Well ID</u>	<u>Installation Date</u>	<u>Well Diameter (inches)</u>	<u>TOC Elevation (ft amsl)</u>	<u>Total Depth (ft btoc)</u>	<u>Screen Length / Open Borehole (feet)</u>	<u>Screen Interval</u>					
						<u>Depth (ft btoc)</u>		<u>Elevation (ft amsl)</u>			
<i>Shallow Zone - Water Table</i>											
MW-01	03/30/96	2	113.6	36	10.0	26.0	-	36.0	87.60	-	77.60
MW-04	04/02/96	2	124.4	34.3	10.0	24.3	-	34.3	100.10	-	90.10
MW-04R	09/13/22	2	125.4	40	10.0	30.0	-	40.0	95.40	-	85.40
MW-05R	09/13/16	2	123.5	33	10.0	23.0	-	33.0	100.50	-	90.50
MW-09	12/10/96	2	125.1	25	10.0	15.0	-	25.0	110.10	-	100.10
MW-38R	09/13/16	2	125.4	33.3	10.0	23.3	-	33.3	102.10	-	92.10
MW-42	09/13/16	2	125.9	33.2	10.0	23.2	-	33.2	102.70	-	92.70
<i>Shallow Zone - Semi-Confined</i>											
MW-03	04/01/96	2	113.6	21.7	10.0	11.7	-	21.7	101.90	-	91.90
MW-16	08/2010	2	124.0	50.2	10.0	40.2	-	50.2	83.80	-	73.80
MW-18	11/30/11	2	125.1	58.3	10.0	48.3	-	58.3	76.80	-	66.80
MW-20	11/29/11	2	125.4	50	5.0	45.0	-	50.0	80.40	-	75.40
MW-39	04/04/14	2	124.6	54	10.0	44.0	-	54.0	80.60	-	70.60
MW-43	09/14/16	2	122.8	47.5	10.0	37.5	-	47.5	85.30	-	75.30
MW-44	09/15/16	2	127.1	42.8	10.0	32.8	-	42.8	94.30	-	84.30
<i>Deep Zone</i>											
MW-01D	12/03/11	2	129.4	112.2	10.0	102.2	-	112.2	27.20	-	17.20
MW-16D	12/19/10	2	124.1	100.2	10.0	90.2	-	100.2	33.90	-	23.90
MW-21D	03/22/12	2	126.3	106	10.0	96.0	-	106.0	30.30	-	20.30
MW-22D	03/23/12	2	128.9	114.9	10.0	104.9	-	114.9	24.00	-	14.00
MW-23D	03/21/12	2	125.2	95	10.0	85.0	-	95.0	40.20	-	30.20
MW-27D	08/27/13	2	117.2	117.3	10.0	107.3	-	117.3	9.90	-	-0.10
MW-40D	09/21/16	2	124.1	95.8	10.0	85.8	-	95.8	38.30	-	28.30
MW-41D	09/23/16	2	127.1	164	10.0	154.0	-	164.0	-26.90	-	-36.90
RECOVERY WELL PIEZOMETERS											
<i>Shallow Zone - Semi-Confined</i>											
RW-1S	09/12/16	1	122.9	62	35.0	27.0	-	62.0	95.90	-	60.90
RW-2S	09/11/16	1	123.5	60.5	35.0	25.5	-	60.5	98.00	-	63.00
RW-3S	09/11/16	1	125.4	62	35.0	27.0	-	62.0	98.40	-	63.40
<i>Deep Zone</i>											
RW-1D	09/09/16	1	126.9	126	40.0	86.0	-	126.0	40.90	-	0.90
RW-2D	08/31/16	1	127.4	145.6	40.0	105.6	-	145.6	21.80	-	-18.20

Notes:

a/ TOC = top of casing; ft amsl = feet above mean sea level; ft btoc = feet below top of casing.

Table 7

**Historical Water Level Measurements in
Monitoring Wells and Recovery Well Piezometers
Former Kop-Flex Facility
Hanover, Maryland (a)**

Well ID	Zone	TOC elevation	12/7/2016 (c)		2/1/2017 (c)		3/21/2017		4/7/2017		4/10/2017		4/13/2017		4/17/2017	
			Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
MW-01	Shallow	129.8	NM	-	15.98	113.82	16.16	113.64	15.93	113.87	15.95	113.85	15.94	113.86	15.90	113.90
MW-03	Shallow	113.6	6.78	106.82	6.83	106.77	6.79	106.81	6.41	107.19	6.76	106.84	6.91	106.69	6.90	106.70
MW-04	Shallow	124.4	12.28	112.12	11.14	113.26	11.17	113.23	11.05	113.35	11.09	113.31	11.06	113.34	11.13	113.27
MW-04R (b)	Shallow	127.5	NA	-	NA	-	NA	-	NA	-	NA	-	NA	-	NA	-
MW-5R	Shallow	123.5	15.87	107.63	13.49	110.01	15.98	107.52	16.15	107.35	16.38	107.12	16.45	107.05	16.47	107.03
MW-09	Shallow	125.1	10.84	114.26	11.30	113.80	11.51	113.59	11.41	113.69	11.41	113.69	11.51	113.59	11.48	113.62
MW-16	Shallow	124.0	10.92	113.08	11.12	112.88	11.66	112.34	11.74	112.26	11.81	112.19	11.82	112.18	12.08	111.92
MW-18	Shallow	125.1	20.77	104.33	20.84	104.26	22.85	102.25	22.85	102.25	23.11	101.99	23.18	101.92	23.19	101.91
MW-20	Shallow	125.4	NM	-	12.24	113.16	12.5	112.90	12.33	113.07	12.31	113.09	12.3	113.10	13.38	112.02
MW-38R	Shallow	125.4	15.58	109.82	15.76	109.64	19.64	105.76	19.6	105.80	20.81	104.59	19.81	105.59	19.84	105.56
MW-39	Shallow	124.6	NM	-	20.96	103.64	22.64	101.96	22.55	102.05	21.86	102.74	23	101.60	23.01	101.59
MW-42	Shallow	125.9	16.18	109.72	16.26	109.64	19.28	106.62	19.33	106.57	19.52	106.38	19.49	106.41	19.55	106.35
MW-43	Shallow	122.8	19.25	103.55	19.31	103.49	20.68	102.12	20.31	102.49	20.61	102.19	21.81	100.99	20.92	101.88
MW-44	Shallow	127.1	14.93	112.17	15.25	111.85	17.7	109.40	17.08	110.02	17.18	109.92	17.35	109.75	17.23	109.87
MW-45	Shallow	126.7	NM	-	NM	-	14.1	112.62	13.85	112.87	13.85	112.87	13.85	112.87	13.75	112.97
RW-1S	Shallow	122.9	12.96	109.94	13.17	109.73	12.96	109.94	20.36	102.54	20.6	102.30	20.56	102.34	20.60	102.30
RW-2S	Shallow	123.5	14.12	109.38	14.02	109.48	28.55	94.95	28.88	94.62	29.81	93.69	29	94.50	29.14	94.36
RW-3S	Shallow	125.4	14.29	111.11	14.24	111.16	20.34	105.06	23.49	101.91	23.59	101.81	23.69	101.71	23.73	101.67
MW-01D	Deep	129.4	42.81	86.59	42.22	87.18	56.15	73.25	56.06	73.34	56.22	73.18	56.44	72.96	56.37	73.03
MW-16D	Deep	124.1	34.91	89.19	34.72	89.38	37.55	86.55	37.6	86.50	38.02	86.08	38.1	86.00	37.94	86.16
MW-21D	Deep	126.3	37.8	88.50	37.59	88.71	47.12	79.18	47.26	79.04	47.57	78.73	47.61	78.69	47.58	78.72
MW-22D	Deep	128.9	40.78	88.07	40.49	88.36	43.28	85.57	43.3	85.55	43.59	85.26	43.76	85.09	43.73	85.12
MW-23D	Deep	125.2	35.14	90.06	34.74	90.46	36.33	88.87	36.29	88.91	36.72	88.48	36.81	88.39	36.61	88.59
MW-24D	Deep	129.1	46.3	82.80	45.73	83.37	47.44	81.66	47.71	81.39	48	81.10	48.16	80.94	48.29	80.81
MW-27D	Deep	117.2	29.66	87.54	26.78	90.42	27.73	89.47	27.68	89.52	28.18	89.02	28.3	88.90	28.03	89.17
MW-40D	Deep	124.1	35.14	88.96	34.94	89.16	37.19	86.91	37.51	86.59	37.98	86.12	37.98	86.12	37.85	86.25
MW-41D	Deep	127.1	41.98	85.12	41.44	85.66	44.00	83.10	44.06	83.04	44.48	82.62	44.56	82.54	44.43	82.67
MW-46D	Deep	124.8	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-	NM	-
RW-1D	Deep	126.9	38.53	88.37	38.19	88.71	58.69	68.21	59.02	67.88	59.06	67.84	59.02	67.88	59.26	67.64
RW-2D	Deep	127.4	42.31	85.09	41.62	85.78	68.82	58.58	68.51	58.89	68.39	59.01	68.78	58.62	68.63	58.77

a/ Vertical datum is NAVD-88

NM = not measured

TOC = top of casing

NA = not available because the well had not been installed

Light gray shading denotes wells screened in the shallow (unconfined) zone; blue shading denotes wells screened in the deep (confined) zone.

Continuous pumping of the groundwater recovery well system started on March 29, 2017.

Water levels from both shallow and deep recovery wells were measured in piezometers co-located with the wells.

b/ MW-04 was replaced in September 2022 with MW-04R.

c/ Water level measurements representative of non-pumping conditions in the aquifer system.

Table 7

**Historical Water Level Measurements in
Monitoring Wells and Recovery Well Piezometers
Former Kop-Flex Facility
Hanover, Maryland (a)**

Well ID	Zone	TOC elevation	5/1/2017		5/8/2017		8/31/2017		10/25/2017		11/14/2017		5/30/2018		11/7/2018	
			Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
MW-01	Shallow	129.8	15.92	113.88	15.81	113.99	15.49	114.31	NA	NA	14.17	115.63	15.52	114.28	13.99	115.81
MW-03	Shallow	113.6	6.96	106.64	6.87	106.73	7.59	106.01	NA	NA	7.27	106.33	7.17	106.43	6.43	107.17
MW-04	Shallow	124.4	10.95	113.45	10.91	113.49	10.66	113.74	NA	NA	10.97	113.43	10.19	114.21	9.16	115.24
MW-04R (b)	Shallow	127.5	NA	-	NA	-	NA	-	NA	-	NA	-	NA	-	NA	-
MW-5R	Shallow	123.5	16.60	106.90	16.60	106.90	16.90	106.60	NA	NA	16.78	106.72	15.89	107.61	15.51	107.99
MW-09	Shallow	125.1	11.41	113.69	11.34	113.76	11.09	114.01	NA	NA	NA	NA	10.78	114.32	9.16	115.94
MW-16	Shallow	124.0	11.99	112.01	11.81	112.19	11.90	112.10	NA	NA	12.00	112.00	11.76	112.24	10.96	113.04
MW-18	Shallow	125.1	23.30	101.80	23.28	101.82	24.63	100.47	NA	NA	24.41	100.69	23.80	101.30	23.13	101.97
MW-20	Shallow	125.4	13.01	112.39	12.24	113.16	12.39	113.01	NA	NA	11.98	113.42	12.15	113.25	11.74	113.66
MW-38R	Shallow	125.4	19.94	105.46	19.96	105.44	20.16	105.24	NA	NA	19.93	105.47	19.35	106.05	18.67	106.73
MW-39	Shallow	124.6	23.05	101.55	23.00	101.60	24.51	100.09	NA	NA	23.93	100.67	23.72	100.88	23.09	101.51
MW-42	Shallow	125.9	19.68	106.22	19.67	106.23	19.95	105.95	NA	NA	19.82	106.08	19.16	106.74	18.55	107.35
MW-43	Shallow	122.8	21.11	101.69	20.90	101.90	21.73	101.07	NA	NA	21.66	101.14	20.47	102.33	20.60	102.20
MW-44	Shallow	127.1	17.31	109.79	17.27	109.83	17.18	109.92	NA	NA	17.00	110.10	16.32	110.78	15.78	111.32
MW-45	Shallow	126.7	13.67	113.05	13.60	113.12	13.20	113.52	NA	NA	13.80	112.92	12.98	113.74	12.00	114.72
RW-1S	Shallow	122.9	20.80	102.10	20.79	102.11	21.49	101.41	NA	NA	21.98	100.92	22.88	100.02	23.97	98.93
RW-2S	Shallow	123.5	29.61	93.89	29.74	93.76	32.10	91.40	NA	NA	30.76	92.74	28.37	95.13	27.48	96.02
RW-3S	Shallow	125.4	24.32	101.08	24.46	100.94	26.20	99.20	NA	NA	28.47	96.93	26.91	98.49	24.39	101.01
MW-01D	Deep	129.4	56.40	73.00	56.29	73.11	56.70	72.70	58.17	71.23	58.09	71.31	58.03	71.37	57.22	72.18
MW-16D	Deep	124.1	37.98	86.12	38.08	86.02	41.1	83.00	40.71	83.39	40.63	83.47	40.37	83.73	39.33	84.77
MW-21D	Deep	126.3	47.54	78.76	47.61	78.69	56.7	69.60	50.61	75.69	50.53	75.77	50.38	75.92	49.61	76.69
MW-22D	Deep	128.9	43.82	85.03	43.81	85.04	46.71	82.14	46.74	82.11	46.25	82.60	46.30	82.55	35.31	93.54
MW-23D	Deep	125.2	36.71	88.49	36.77	88.43	39.9	85.30	39.21	85.99	39.04	86.16	38.87	86.33	37.72	87.48
MW-24D	Deep	129.1	48.35	80.75	48.37	80.73	55.82	73.28	52.15	76.95	51.99	77.11	50.94	78.16	50.72	78.38
MW-27D	Deep	117.2	28.21	88.99	28.21	88.99	31.11	86.09	30.52	86.68	30.34	86.86	30.20	87.00	29.17	88.03
MW-40D	Deep	124.1	38.01	86.09	38.04	86.06	41.00	83.10	40.75	83.35	40.50	83.60	40.44	83.66	39.60	84.50
MW-41D	Deep	127.1	44.61	82.49	44.62	82.48	49.18	77.92	47.94	79.16	47.71	79.39	47.56	79.54	46.56	80.54
MW-46D	Deep	124.8	NM	-	NM	-	NM	-	NM	-	NM	-	37.37	87.40	32.65	92.12
RW-1D	Deep	126.9	58.88	68.02	58.99	67.91	60.23	66.67	62.62	64.28	63.62	63.28	62.75	64.15	62.97	63.93
RW-2D	Deep	127.4	68.70	58.70	68.44	58.96	70.11	57.29	68.90	58.50	68.95	58.45	69.21	58.19	68.34	59.06

a/ Vertical datum is NAVD-88

NM = not measured

TOC = top of casing

NA = not available because the well had not been installed

Light gray shading denotes wells screened in the shallow (unconfined) zone; blue shading denotes wells screened in the deep (confined) zone.

Continuous pumping of the groundwater recovery well system started on March 29, 2017.

Water levels from both shallow and deep recovery wells were measured in piezometers co-located with the wells.

c/ MW-04 was replaced in September 2022 with MW-04R.

b/ Water level measurements representative of non-pumping conditions in the aquifer system.

Table 7

**Historical Water Level Measurements in
Monitoring Wells and Recovery Well Piezometers
Former Kop-Flex Facility
Hanover, Maryland (a)**

Well ID	Zone	TOC elevation	5/21/2019		11/19/2019		5/12/2020		11/22/2020		5/9/2021		11/14/2021 (c)		6/26/2022 (c)	
			Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
MW-01	Shallow	129.8	13.98	115.82	16.47	113.33	15.67	114.13	15.58	114.22	14.75	115.05	15.35	114.45	14.85	114.95
MW-03	Shallow	113.6	7.08	106.52	7.02	106.58	6.09	107.51	6.1	107.50	6.4	107.20	5.86	107.74	6.21	107.39
MW-04	Shallow	124.4	8.80	115.60	11.07	113.33	11.00	113.40	10.85	113.55	9.75	114.65	10.43	113.97	9.90	114.50
MW-04R (b)	Shallow	127.5	NA	-	NA	-	NA	-	NA	-	NA	-	NA	-	NA	-
MW-5R	Shallow	123.5	15.74	107.76	16.61	106.89	16.55	106.95	15.84	107.66	NM	-	13.52	109.98	14.36	109.14
MW-09	Shallow	125.1	9.61	115.49	12.00	113.10	11.57	113.53	11.23	113.87	10.35	114.75	10.85	114.25	10.50	114.60
MW-16	Shallow	124.0	9.37	114.63	12.43	111.57	11.66	112.34	11.68	112.32	11.15	112.85	11.05	112.95	11.22	112.78
MW-18	Shallow	125.1	22.97	102.13	21.12	103.98	23.10	102.00	23.80	101.30	26.71	98.39	21.42	103.68	22.05	103.05
MW-20	Shallow	125.4	10.64	114.76	12.98	112.42	12.57	112.83	12.11	113.29	11.22	114.18	11.34	114.06	14.41	110.99
MW-38R	Shallow	125.4	19.13	106.27	19.83	105.57	19.03	106.37	19.25	106.15	18.55	106.85	15.63	109.77	17.66	107.74
MW-39	Shallow	124.6	23.00	101.60	23.94	100.66	23.04	101.56	23.52	101.08	22.98	101.62	21.29	103.31	22.22	102.38
MW-42	Shallow	125.9	18.91	106.99	19.44	106.46	18.85	107.05	NM	-	17.98	107.92	15.64	110.26	NM	-
MW-43	Shallow	122.8	21.46	101.34	22.04	100.76	20.98	101.82	21.91	100.89	21.02	101.78	20.10	102.70	20.47	102.33
MW-44	Shallow	127.1	15.91	111.19	17.24	109.86	16.30	110.80	16.52	110.58	16.26	110.84	15.21	111.89	15.80	111.30
MW-45	Shallow	126.7	11.75	114.97	14.55	112.17	NM	-	13.61	113.11	12.69	114.03	13.35	113.37	12.91	113.81
RW-1S	Shallow	122.9	26.42	96.48	28.64	94.26	29.16	93.74	28.13	94.77	25.00	97.90	13.28	109.62	NM	-
RW-2S	Shallow	123.5	31.16	92.34	31.70	91.80	33.33	90.17	35.31	88.19	34.85	88.65	16.02	107.48	NM	-
RW-3S	Shallow	125.4	22.10	103.30	23.24	102.16	22.85	102.55	26.72	98.68	25.36	100.04	15.69	109.71	NM	-
MW-01D	Deep	129.4	56.55	72.85	59.49	69.91	57.17	72.23	59.91	69.49	57.46	71.94	45.20	84.20	47.46	81.94
MW-16D	Deep	124.1	38.30	85.80	40.99	83.11	38.67	85.43	39.97	84.13	38.81	85.29	37.06	87.04	NM	-
MW-21D	Deep	126.3	48.38	77.92	50.75	75.55	48.50	77.80	50.37	75.93	48.64	77.66	41.50	84.80	43.11	83.19
MW-22D	Deep	128.9	44.02	84.83	46.20	82.65	44.05	84.80	46.55	82.30	44.72	84.13	43.36	85.49	44.90	83.95
MW-23D	Deep	125.2	36.88	88.32	39.40	85.80	37.16	88.04	39.22	85.98	37.36	87.84	36.73	88.47	38.36	86.84
MW-24D	Deep	129.1	49.67	79.43	51.12	77.98	48.80	80.30	53.02	76.08	50.01	79.09	49.40	79.70	51.06	78.04
MW-27D	Deep	117.2	28.15	89.05	30.68	86.52	28.64	88.56	30.62	86.58	28.89	88.31	28.72	88.48	29.82	87.38
MW-40D	Deep	124.1	38.50	85.60	41.16	82.94	38.59	85.51	40.97	83.13	39.00	85.10	37.48	86.62	40.04	84.06
MW-41D	Deep	127.1	45.42	81.68	48.50	78.60	45.28	81.82	48.65	78.45	45.95	81.15	44.51	82.59	46.96	80.14
MW-46D	Deep	124.8	35.47	89.30	37.90	86.87	35.73	89.04	37.72	87.05	35.95	88.82	35.62	89.15	37.13	87.64
RW-1D	Deep	126.9	62.44	64.46	64.86	62.04	NM	-	NM	-	NM	-	41.71	85.19	NM	-
RW-2D	Deep	127.4	68.19	59.21	71.36	56.04	69.35	58.05	69.72	57.68	69.41	57.99	43.90	83.50	NM	-

a/ Vertical datum is NAVD-88

NM = not measured

TOC = top of casing

NA = not available because the well had not been installed

Light gray shading denotes wells screened in the shallow (unconfined) zone; blue shading denotes wells screened in the deep (confined) zone.

Continuous pumping of the groundwater recovery well system started on March 29, 2017.

Water levels from both shallow and deep recovery wells were measured in piezometers co-located with the wells.

c/ MW-04 was replaced in September 2022 with MW-04R.

b/ Water level measurements representative of non-pumping conditions in the aquifer system.

Table 7

**Historical Water Level Measurements in
Monitoring Wells and Recovery Well Piezometers
Former Kop-Flex Facility
Hanover, Maryland (a)**

Well ID	Zone	TOC elevation	11/7/2022		11/20/2022		5/21/2023		12/3/2023		5/19/2024		11/10/2024	
			Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
MW-01	Shallow	129.8	15.66	114.14	15.65	114.15	15.22	114.58	15.73	114.07	14.4	115.40	15.75	114.05
MW-03	Shallow	113.6	6.39	107.21	6.29	107.31	6.63	106.97	6.9	106.70	6.93	106.67	15.57	98.03 (d)
MW-04	Shallow	124.4	-	- (b)	-	- (b)	-	- (b)	-	- (b)	-	- (b)	-	- (b)
MW-04R (b)	Shallow	127.5	13.93	113.54	14.01	113.46	13.60	113.87	14.11	113.36	12.83	114.64	14.13	113.34
MW-5R	Shallow	123.5	NM	-	15.95	107.55	13.53	109.97	15.32	108.18	14.98	108.52	16.03	107.47
MW-09	Shallow	125.1	10.81	114.29	11.08	114.02	10.90	114.20	11.29	113.81	10.03	115.07	11.03	114.07
MW-16	Shallow	124.0	11.84	112.16	11.75	112.25	11.79	112.21	11.68	112.32	10.77	113.23	11.95	112.05
MW-18	Shallow	125.1	23.37	101.73	23.39	101.71	21.46	103.64	23.69	101.41	22.86	102.24	24.31	100.79
MW-20	Shallow	125.4	11.35	114.05	11.73	113.67	11.80	113.60	11.81	113.59	11.07	114.33	11.10	114.30
MW-38R	Shallow	125.4	19.32	106.08	19.01	106.39	16.76	108.64	18.18	107.22	18.28	107.12	18.76	106.64
MW-39	Shallow	124.6	23.74	100.86	23.49	101.11	21.72	102.88	23.63	100.97	23.20	101.40	24.48	100.12
MW-42	Shallow	125.9	18.68	107.22	18.48	107.42	15.89	110.01	17.83	108.07	17.97	107.93	18.52	107.38
MW-43	Shallow	122.8	21.58	101.22	21.51	101.29	20.10	102.70	22.15	100.65	21.92	100.88	22.84	99.96
MW-44	Shallow	127.1	16.12	110.98	15.85	111.25	15.30	111.80	15.91	111.19	15.51	111.59	16.53	110.57
MW-45	Shallow	126.7	NM	-	13.54	113.18	13.08	113.64	13.54	113.18	12.40	114.32	13.63	113.09
RW-1S	Shallow	122.9	20.77	102.13	20.41	102.49	13.22	109.68	18.10	104.80	20.67	102.23	17.90	105.00
RW-2S	Shallow	123.5	29.30	94.20	28.82	94.68	14.70	108.80	28.91	94.59	20.57	102.93	33.06	90.44
RW-3S	Shallow	125.4	NM	-	16.94	108.46	15.82	109.58	NM	-	16.97	108.43	NM	-
MW-01D	Deep	129.4	NM	-	60.02	69.38	45.61	83.79	58.66	70.74	48.81	80.59	50.88	78.52
MW-16D	Deep	124.1	NM	-	NM	-	37.56	86.54	41.89	82.21	40.33	83.77	42.23	81.87
MW-21D	Deep	126.3	NM	-	51.95	74.35	40.86	85.44	51.76	74.54	50.40	75.90	51.17	75.13
MW-22D	Deep	128.9	NM	-	46.90	81.95	43.52	85.33	48.10	80.75	46.44	82.41	48.03	80.82
MW-23D	Deep	125.2	NM	-	39.85	85.35	37.31	87.89	40.28	84.92	39.06	86.14	41.00	84.20
MW-24D	Deep	129.1	NM	-	53.11	75.99	49.42	79.68	53.83	75.27	52.60	76.50	54.70	74.40
MW-27D	Deep	117.2	NM	-	31.18	86.02	29.24	87.96	31.71	85.49	30.64	86.56	32.54	84.66
MW-40D	Deep	124.1	NM	-	41.58	82.52	37.80	86.30	42.06	82.04	40.96	83.14	42.73	81.37
MW-41D	Deep	127.1	NM	-	48.78	78.32	44.84	82.26	49.37	77.73	47.50	79.60	49.71	77.39
MW-46D	Deep	124.8	NM	-	38.38	86.39	36.26	88.51	38.88	85.89	37.66	87.11	39.80	84.97
RW-1D	Deep	126.9	NM	-	64.80	62.10	42.00	84.90	64.03	62.87	63.31	63.59	62.86	64.04
RW-2D	Deep	127.4	NM	-	71.59	55.81	45.25	82.15	NM	-	NM	-	NM	-

a/ Vertical datum is NAVD-88

NM = not measured

TOC = top of casing

NA = not available because the well had not been installed

Light gray shading denotes wells screened in the shallow (unconfined) zone; blue shading denotes wells screened in the deep (confined) zone.

Continuous pumping of the groundwater recovery well system started on March 29, 2017.

Water levels from both shallow and deep recovery wells were measured in piezometers co-located with the wells.

b/ MW-04 was replaced in September 2022 with MW-04R.

c/ Water level measurements representative of non-pumping conditions in the aquifer system.

d/ Erroneous measurement.

Table 8

**Previous and Current Deployment Depths for HydraSleeve Samplers
Former Kop-Flex Facility Site
Hanover, Maryland (a)**

Well ID	Well Depth (ft bgs)	Top of Screen (ft bgs)	Historical Deployment Depths		Current Deployment Depths	
			Deployment Depth (ft bgs) (b)	Sample Interval (ft bgs)	Deployment Depth (ft bgs) (b)	Sample Interval (ft bgs)
Shallow Wells						
MW-01	37	27	34.5	32-34.5	32	28.8 - 32.0
MW-03	25.5	16	23.0	20.5-23	21	17.3-20.5
MW-04R	40	30	37.5	35-37.5	35	31.8-35
MW-05R	32	22	29.5	27-29.5	27	23.8-27
MW-09	25	15	22.5	20-22.5	20	16.8 - 20
MW-16	50	40	47.5	45-47.5	45	40.7 - 45
MW-18	56	46	53.5	51-53.5	51	47.8 - 51
MW-20	60	50	57.5	55-57.5	55	51.8 - 55
MW-38R	28	18	25.5	23-25.5	23	20.9 - 24.1
MW-39	50	40	47.5	45-47.5	45	41.8 - 45
MW-42	30	20	27.5	25-27.5	25	21.8 - 25.0
MW-43	46	36	43.5	41-43.5	41	37.8 - 41.0
MW-44	42	32	39.5	37-39.5	37	33.8 - 37.0
Deep Wells						
MW-01D	112	102	109.5	107-109.5	107	103.8 - 107.0
MW-16D	101	91	98.5	96-98.5	98	95.2 - 98.4
MW-21D	102	92	99.5	97-99.5	97	93.8 - 97.0
MW-22D	114	104	111.5	109-111.5	109	105.8 - 109.0
MW-23D	92	82	89.5	87-89.5	87	83.8 - 87
MW-27D	113	103	110.5	108-110.5	108	104.8 - 108.0
MW-40D	97	87	94.5	92-94.5	92	88.8 - 92.0
MW-41D	162	152	159.5	157-159.5	157	153.8 - 157.0

a/ ft bgs = feet below ground surface

b/ Deployment depth is measured at the top of the sampler

Table 9

**Field Water Quality Measurements
Former Kop-Flex Facility Site
Hanover, MD
May 2024 (a)**

Well ID	Sample Date	Temperature (°C)	pH	Specific Conductivity (mS/cm)	Turbidity (NTU)
Shallow Wells					
MW-04R	5/19/2024	18.24	6.41	0.349	825
MW-09	5/19/2024	18.59	6.62	0.717	502
MW-16	5/19/2024	Parameters Not Collected Due to Insufficient Sample Volume			
MW-20	5/19/2024	19.02	5.62	0.083	101
MW-39	6/12/2024	19.77	4.26	0.201	222
MW-42	5/19/2024	17.52	4.53	0.134	144
MW-43	5/19/2024	18.17	4.03	0.335	71.1
MW-44	5/19/2024	18.49	5.35	0.471	130
Deep Wells					
MW-01D	5/19/2024	18.58	5.72	0.145	0
MW-16D	5/19/2024	Parameters Not Collected Due to Insufficient Sample Volume			
MW-21D	5/19/2024	17.87	4.68	0.166	30.4
MW-22D	5/19/2024	18.28	4.9	0.126	735
MW-23D	5/19/2024	18.74	5.65	0.194	0

a/ °C = degrees Celsius; mS/cm = milliSiemens/centimeter; ORP = oxidation-reduction potential; mV = millivolts; NTU = nephelometric turbidity units.

Table 10

**Field Water Quality Measurements
Former Kop-Flex Facility Site
Hanover, MD
November 2024 (a)**

Well ID	Sample Date	Temperature (°C)	pH	Specific Conductivity (mS/cm)	Turbidity (NTU)
Shallow Wells					
MW-01	11/10/2024	12.36	4.22	0.438	> 1000
MW-03	11/10/2024	15.57	5.89	0.261	760
MW-04R	11/10/2024	13.06	5.92	0.381	> 1000
MW-05R	11/10/2024	13.46	3.15	0.274	264
MW-09	11/10/2024	11.68	6.24	1.13	660
MW-16	11/10/2024	Parameters Not Collected Due to Insufficient Sample Volume			
MW-18	11/10/2024	11.99	4.58	0.291	53
MW-20	11/10/2024	13.07	5.31	0.069	156
MW-38R	11/10/2024	14	3.73	0.118	135
MW-39	11/10/2024	13.11	4.11	0.190	191
MW-42	11/10/2024	12.63	4.23	0.135	90.3
MW-43	11/10/2024	13.44	4.02	0.234	175
MW-44	11/10/2024	Parameters Not Collected Due to Insufficient Sample Volume			
RW-1S	11/10/2024	14.36	4.08	0.182	135
RW-2S	11/10/2024	13.76	4.06	0.273	7.8
Deep Wells					
MW-01D	11/10/2024	11.80	4.20	0.121	> 1000
MW-16D	11/10/2024	Parameters Not Collected Due to Insufficient Sample Volume			
MW-21D	11/10/2024	12.43	4.63	0.162	87.0
MW-22D	11/10/2024	12.0	4.74	0.159	754
MW-23D	11/10/2024	12.73	5.82	0.217	357
MW-27D	11/10/2024	13.37	5.95	0.248	>1000
MW-40D	11/10/2024	12.11	4.34	0.252	78.4
MW-41D	11/10/2024	12.03	3.43	0.14	15
RW-1D	11/10/2024	13.28	4.47	0.161	3.7

a/ °C = degrees Celsius; mS/cm = milliSiemens/centimeter; ORP = oxidation-reduction potential; mV = millivolts; NTU = nephelometric turbidity units.

Table 11

2024 Monitoring Well Sampling Results
Former Kop-Flex Facility
Hanover, Maryland (a)

Well ID: Date Sampled:	Shallow Wells												
	MW-01 11/11/24	MW-03 11/10/24	MW-04R 5/19/24 11/11/24		(d) MW-05R 11/10/24	MW-09 5/19/24 11/11/24		MW-16 5/19/24 11/11/24		MW-18 11/10/24	MW-20 5/19/24 11/11/24		
Parameters	Groundwater Cleanup Standards (µg/L) (b)												
Chloroethane	2,100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	34.5	35.4	1.0 U	5.0 U	5.0 U
1,1-Dichloroethane	2.8	1.0 U	1.0 U	36.0	32.6	1.0 U	2.9	1.1	1,160	1,030	1.0 U	386	389
1,2-Dichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20.0 U	20.0 U	1.0 U	12.6	13.2
1,1-Dichloroethene	7	1.0 U	1.0 U	76.0	61.6	1.0 U	60.7	18.0	1,640	1,490	1.0 U	560	528
1,4-Dioxane	15	(c) 1.0 U	2.5 U	26.7	36.8	1.9	3.8	2.2	91.4	88.1	1.0 U	396	616
Methyl t-Butyl Ether	20	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20.0 U	20.0 U	1.0 U	5.0 U	5.0 U
1,1,1-Trichloroethane	200	1.0 U	1.0 U	1.0 U	1.0 U	1.1	1.0 U	1.0 U	905	767	1.0 U	5.0 U	5.0 U
Trichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20.0 U	20.0 U	1.0 U	5.1	5.0 U

Table 11

2024 Monitoring Well Sampling Results
Former Kop-Flex Facility
Hanover, Maryland (a)

Parameters	Groundwater Cleanup Standards (µg/L) (b)	Shallow Wells											
		MW-38R		MW-39		MW-42		MW-43		MW-44		MW-01D	
		5/19/24	11/10/24	6/12/24	11/10/24	5/19/24	11/10/24	5/19/24	11/10/24	5/19/24	11/10/24	5/19/24	11/11/24
Chloroethane	2,100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	2.8	8.1	3.9	1.0 U	1.0 U	1.0 U	1.0 U	1.5	1.3	3.3	1.6	2.4	2.9
1,2-Dichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	17.3	15.2	5.0	2.0	17.1	15.6
1,4-Dioxane	15 (c)	10.0	19.2	1.0 U	1.0 U	3.7	3.3	6.3	9.6	1.9	2.8	3.1	6.2
Methyl t-Butyl Ether	20	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0	1.9	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.8	2.0	1.0 U	1.0 U
Trichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Table 11

2024 Monitoring Well Sampling Results
Former Kop-Flex Facility
Hanover, Maryland (a)

Parameters	Groundwater Cleanup Standards (µg/L) (b)	Deep Wells								Deep Wells			
		MW-16D		MW-100		MW-21D		MW-22D		MW-23D	MW-27D	MW-40D	MW-41D
		5/19/24	11/11/24	5/19/24	11/10/24	5/19/24	11/11/24	5/19/24	11/11/24	5/19/24	11/10/24	11/10/24	11/10/24
Chloroethane	2,100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	2.8	20.5	20.7	16.8	15.0	1.0 U	1.0 U	1.0 U	1.0 U	32.7	20.1	1.0 U	1.0 U
1,2-Dichloroethane	5	1.1	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	7	96.6	96.6	68.2	58.8	6.3	19.8	5.5	10.8	134	77.6	1.0 U	1.0 U
1,4-Dioxane	15 (c)	18.7	19.1	21.6	24.8	4.3	7.2	1.1	3.4	24.2	34.1	1.0 U	1.0 U
Methyl t-Butyl Ether	20	1.1	1.1	1.0 U	1.0 U	1.3	1.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	200	4.5	4.4	3.5	3.2	1.0 U	1.0 U	1.0 U	1.0 U	6.9	4.6	1.0 U	1.0 U
Trichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

a/ U = not detected above the method detection limit.

Bolded values indicate an exceedence of the Groundwater Cleanup Standards

All sample concentrations in micrograms per liter (µg/l)

b/ All cleanup standards, except for 1,4-dioxane, are equal to the Maryland Generic Numeric Cleanup Standards for Groundwater, Type I and II Aquifers, from the State of Maryland Interim Final Guidance (October 2018). Accessed May 27, 2020:

<https://mde.maryland.gov/programs/LAND/MarylandBrownfieldVCP/Documents/www.mde.state.md.us/assets/document/MDE%20Soil%20and%20Groundwater%20Cleanup%20Standards%2010-2018%20Interim%20Final%20Update%203-2.pdf>

c/ Numeric cleanup standards from WSP's October 2, 2015, Response Action Plan, Revision 2.

d/ MW-04 was replaced in September 2022 with monitoring well MW-4R

e/ This sample was a duplicate of MW-16D

APPENDIX

A HISTORICAL SYSTEM SAMPLING RESULTS

Appendix A - Table A-1

Historical Influent Results
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Cas#	MDE Cleanup Standards for Groundwater Type I/II		Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1
				3/13/2017	3/15/2017	3/20/2017	3/23/2017	3/29/2017	4/3/2017	4/12/2017	4/19/2017	5/8/2017			
Volatile Organic Compounds (EPA Method 8260)															
1,1,1-Trichloroethane	71-55-6	200	(c)	55	150	92	81	82	62	55	49	41			
1,1,2,2-Tetrachloroethane	79-34-5	0.076		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	--		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
1,1,2-Trichloroethane	79-00-5	5		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
1,1-Dichloroethane	75-34-3	2.8	(d)	180	200	110	140	150	140	140	120	86			
1,1-Dichloroethene	75-35-4	7	(c)	260	360	260	360	360	390	380	410	350			
1,2,3-Trichlorobenzene	87-61-6	--		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
1,2,4-Trichlorobenzene	120-82-1	70		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
1,2-Dibromo-3-Chloropropane	96-12-8	0.20		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U			
1,2-Dibromoethane (EDB)	106-93-4	0.050		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
1,2-Dichlorobenzene	95-50-1	600		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
1,2-Dichloroethane	107-06-2	5	(c)	1.6	2.0	2.5	3.1	3.5	3.6	3.5	3.0	2.6			
1,2-Dichloropropane	78-87-5	5		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
1,3-Dichlorobenzene	541-73-1	--		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
1,4-Dichlorobenzene	106-46-7	75		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
2-Butanone (MEK)	78-93-3	560		25	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U			
2-Hexanone	591-78-6	--		5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U			
4-Methyl-2-Pentanone	108-10-1	630		5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U			
Acetone	67-64-1	1,400		10	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U			
Benzene	71-43-2	5		1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
Bromochloromethane	74-97-5	--		1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
Bromodichloromethane	75-27-4	80		1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
Bromoform	75-25-2	80		5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U			
Bromomethane	74-83-9	0.75		1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
Carbon Disulfide	75-15-0	81		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U			
Carbon Tetrachloride	56-23-5	5		1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
Chlorobenzene	108-90-7	100		1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
Chloroethane	75-00-3	2,100	(d)	3.0	10	2.3	2.4	2.3	2.7	2.5	2.5	2.7			
Chloroform	67-66-3	80		1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
Chloromethane	74-87-3	19		1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
Cyclohexane	110-82-7	--		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U			
Dibromochloromethane	124-48-1	80		1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
Dichlorodifluoromethane	75-71-8	--		1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
Ethylbenzene	100-41-4	700		1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			
Isopropylbenzene	98-82-8	45		1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U			

Appendix A - Table A-1

**Historical Influent Results
Former Kop-Flex Facility
Hanover, Maryland (a)**

Analyte Name	Cas#	MDE Cleanup Standards for Groundwater Type I/II	Influent VSP-1 3/13/2017		Influent VSP-1 3/15/2017		Influent VSP-1 3/20/2017		Influent VSP-1 3/23/2017		Influent VSP-1 3/29/2017		Influent VSP-1 4/3/2017		Influent VSP-1 4/12/2017		Influent VSP-1 4/19/2017		Influent VSP-1 5/8/2017	
			Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U
Methyl Acetate	79-20-9	--	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl-t-butyl ether	1634-04-4	20	1	U	10	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylcyclohexane	108-87-2	--	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	75-09-2	5	1	U	10	U	1	U	1	U	1.1	U	1	U	1	U	1	U	1	U
Naphthalene	91-20-3	0.17	1	U	10	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Styrene	100-42-5	100	1	U	10	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene	127-18-4	5 (c)	1	U	10	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Toluene	108-88-3	1,000	1	U	10	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Trichloroethene	79-01-6	5 (c)	1.9	U	10	U	2.2	U	2.8	U	2.8	U	3.0	U	3.0	U	2.9	U	2.6	U
Trichlorofluoromethane	75-69-4	--	5	U	10	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Vinyl Chloride	75-01-4	2 (c)	1	U	10	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	156-59-2	70 (c)	2.2	U	10	U	1.2	U	1.8	U	1.9	U	2.5	U	2.6	U	2.2	U	1.9	U
cis-1,3-Dichloropropene	10061-01-5	--	1	U	10	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
m,p-Xylenes	108-38-3	10,000	2	U	10	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
o-Xylene	95-47-6	10,000	1	U	10	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	156-60-5	100	1	U	10	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
trans-1,3-Dichloropropene	10061-02-6	--	1	U	10	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
TOTAL VOCs:		--	538.7		752		470.2		591.1		603.6		603.8		586.6		589.6		486.8	
Volatile Organic Compounds (EPA Method 8260 - SIM)																				
1,4-Dioxane	71-55-6	15 (c)	250		440		360		330		340		330		290		270		220	

Appendix A - Table A-1

Historical Influent Results
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Cas#	MDE Cleanup Standards for Groundwater Type I/II	Influent VSP-1 6/21/2017		Influent VSP-1 7/10/2017		Influent VSP-1 8/3/2017		Influent VSP-1 9/11/2017		Influent VSP-1 10/9/2017		Influent VSP-1 11/7/2017		Influent VSP-1 12/11/2017		Influent VSP-1 1/10/2018		Influent VSP-1 2/7/2018		Influent VSP-1 3/19/2018		Influent VSP-1 4/17/2018			
			Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U		
Volatile Organic Compounds (EPA Method 8260)																										
1,1,1-Trichloroethane	71-55-6	200 (c)	39		44		41		35		32		32		26		25		26		23		22			
1,1,2,2-Tetrachloroethane	79-34-5	0.076	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1,2-Trichloroethane	79-00-5	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	75-34-3	2.8 (d)	59		57		49		40		44		47		48		51		58		61		64			
1,1-Dichloroethene	75-35-4	7 (c)	310		250		230		240		200		240		250		270		260		290		320			
1,2,3-Trichlorobenzene	87-61-6	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2,4-Trichlorobenzene	120-82-1	70	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-Chloropropane	96-12-8	0.20	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dibromoethane (EDB)	106-93-4	0.050	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	95-50-1	600	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	107-06-2	5 (c)	2.1		2.1		2.0		1.7		1.6		1.8		1.8		2.0		2.4		2.3		2.3			
1,2-Dichloropropane	78-87-5	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	541-73-1	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	106-46-7	75	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2-Butanone (MEK)	78-93-3	560	1	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Hexanone	591-78-6	--	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-Pentanone	108-10-1	630	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Acetone	67-64-1	1,400	1	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzene	71-43-2	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromochloromethane	74-97-5	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	75-27-4	80	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromoform	75-25-2	80	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromomethane	74-83-9	0.75	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	75-15-0	81	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbon Tetrachloride	56-23-5	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	108-90-7	100	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chloroethane	75-00-3	2,100 (d)	2.7		2.3		1.8		1.7		2.6		2.6		4.2		4.0		4.1		4.6		5.8			
Chloroform	67-66-3	80	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chloromethane	74-87-3	19	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Cyclohexane	110-82-7	--	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Dibromochloromethane	124-48-1	80	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Dichlorodifluoromethane	75-71-8	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Ethylbenzene	100-41-4	700	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Isopropylbenzene	98-82-8	45	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U

Appendix A - Table A-1

**Historical Influent Results
Former Kop-Flex Facility
Hanover, Maryland (a)**

Analyte Name	Cas#	MDE Cleanup Standards for Groundwater Type I/II	Influent VSP-1 6/21/2017		Influent VSP-1 7/10/2017		Influent VSP-1 8/3/2017		Influent VSP-1 9/11/2017		Influent VSP-1 10/9/2017		Influent VSP-1 11/7/2017		Influent VSP-1 12/11/2017		Influent VSP-1 1/10/2018		Influent VSP-1 2/7/2018		Influent VSP-1 3/19/2018		Influent VSP-1 4/17/2018	
			Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U
Methyl Acetate	79-20-9	--	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl-t-butyl ether	1634-04-4	20	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylcyclohexane	108-87-2	--	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	75-09-2	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Naphthalene	91-20-3	0.17	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Styrene	100-42-5	100	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene	127-18-4	5 (c)	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Toluene	108-88-3	1,000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Trichloroethene	79-01-6	5 (c)	2.2		2.2		2.0		1.7		1.6		1.7		1.6		1.7		1.8		1.7		1.7	
Trichlorofluoromethane	75-69-4	--	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Vinyl Chloride	75-01-4	2 (c)	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	156-59-2	70 (c)	1.4		1.3		1.3		1	U	1.2		1.3		1.6		1.7		2.0		2.2		2.3	
cis-1,3-Dichloropropene	10061-01-5	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
m,p-Xylenes	108-38-3	10,000	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
o-Xylene	95-47-6	10,000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	156-60-5	100	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
trans-1,3-Dichloropropene	10061-02-6	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
TOTAL VOCs:		--	416.4		358.9		327.1		320.1		283		326.4		333.2		355.4		354.3		384.8		418.1	
Volatile Organic Compounds (EPA Method 8260 - SIM)																								
1,4-Dioxane	71-55-6	15 (c)	190		170		170		160		160		150		150		180		170		150		150	

Appendix A - Table A-1

Historical Influent Results
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Cas#	MDE Cleanup Standards for Groundwater Type I/II	Influent VSP-1 5/8/2018		Influent VSP-1 6/5/2018		Influent VSP-1 7/12/2018		Influent VSP-1 10/3/2018		Influent VSP-1 1/8/2019		Influent VSP-1 4/4/2019		Influent VSP-1 5/8/2019		Influent VSP-1 7/2/2019		Influent VSP-1 10/16/2019		Influent VSP-1 1/9/2020		
Volatile Organic Compounds (EPA Method 8260)																							
1,1,1-Trichloroethane	71-55-6	200	(c)	19		23		24		28		20		27		29		27		20		19	
1,1,2,2-Tetrachloroethane	79-34-5	0.076		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	--		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1,2-Trichloroethane	79-00-5	5		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	75-34-3	2.8	(d)	70		76		74		72		63		54		51		44		43		44	
1,1-Dichloroethene	75-35-4	7	(c)	310		310		320		330		330		240		260		230		240		220	
1,2,3-Trichlorobenzene	87-61-6	--		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2,4-Trichlorobenzene	120-82-1	70		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-Chloropropane	96-12-8	0.20		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dibromoethane (EDB)	106-93-4	0.050		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	95-50-1	600		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	107-06-2	5	(c)	2.5		2.6		2.4		2.7		2.2		2.0		1.8		1.7		1.5		1.5	
1,2-Dichloropropane	78-87-5	5		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	541-73-1	--		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	106-46-7	75		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2-Butanone (MEK)	78-93-3	560		10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Hexanone	591-78-6	--		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-Pentanone	108-10-1	630		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Acetone	67-64-1	1,400		10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzene	71-43-2	5		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromochloromethane	74-97-5	--		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	75-27-4	80		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bromoform	75-25-2	80		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromomethane	74-83-9	0.75		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Carbon Disulfide	75-15-0	81		10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbon Tetrachloride	56-23-5	5		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	108-90-7	100		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chloroethane	75-00-3	2,100	(d)	7.3		7.2		7.8		6.1		5.7		4.5		4.0		3.9		4.0		3.5	
Chloroform	67-66-3	80		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chloromethane	74-87-3	19		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Cyclohexane	110-82-7	--		10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Dibromochloromethane	124-48-1	80		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Dichlorodifluoromethane	75-71-8	--		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Ethylbenzene	100-41-4	700		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Isopropylbenzene	98-82-8	45		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U

Appendix A - Table A-1

**Historical Influent Results
Former Kop-Flex Facility
Hanover, Maryland (a)**

Analyte Name	Cas#	MDE Cleanup Standards for Groundwater Type I/II	Influent VSP-1 5/8/2018		Influent VSP-1 6/5/2018		Influent VSP-1 7/12/2018 (e)		Influent VSP-1 10/3/2018		Influent VSP-1 1/8/2019		Influent VSP-1 4/4/2019		Influent VSP-1 5/8/2019		Influent VSP-1 7/2/2019		Influent VSP-1 10/16/2019		Influent VSP-1 1/9/2020	
			Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U
Methyl Acetate	79-20-9	--	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl-t-butyl ether	1634-04-4	20	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylcyclohexane	108-87-2	--	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	75-09-2	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Naphthalene	91-20-3	0.17	1	U	1	U	1	U	1	U	1	U	1.6	U	1	U	1	U	1	U	1	U
Styrene	100-42-5	100	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene	127-18-4	5 (c)	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Toluene	108-88-3	1,000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Trichloroethene	79-01-6	5 (c)	1.7		1.9		1.8		1.9		1.6		1.6		1.6		1.5		1.2		1.2	
Trichlorofluoromethane	75-69-4	--	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Vinyl Chloride	75-01-4	2 (c)	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	156-59-2	70 (c)	2.5		2.7		2.7		2.6		2.1		1.8		1.7		1.6		1.3		1.2	
cis-1,3-Dichloropropene	10061-01-5	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
m,p-Xylenes	108-38-3	10,000	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
o-Xylene	95-47-6	10,000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	156-60-5	100	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
trans-1,3-Dichloropropene	10061-02-6	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
TOTAL VOCs:		--	413		423.4		432.7		443.3		424.6		332.5		349.1		309.7		311		290.4	
Volatile Organic Compounds (EPA Method 8260 - SIM)																						
1,4-Dioxane	71-55-6	15 (c)	170		140		130		150		150		130		130		150		120		110	

Appendix A - Table A-1

Historical Influent Results
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Cas#	MDE Cleanup Standards for Groundwater Type I/II		Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1	Influent VSP-1
				4/7/2020	7/30/2020	11/12/2020	1/13/2021	4/27/2021	9/21/2021	11/3/2021	1/19/2022	6/26/2022			
Volatile Organic Compounds (EPA Method 8260)															
1,1,1-Trichloroethane	71-55-6	200	(c)	21	24	19	16	16	15	15	15	15	15	15	15
1,1,2,2-Tetrachloroethane	79-34-5	0.076		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	--		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	5		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	2.8	(d)	45	49	47	41	40	35	39	42	34			
1,1-Dichloroethene	75-35-4	7	(c)	220	250	220	190	190	180	190	210	140			
1,2,3-Trichlorobenzene	87-61-6	--		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	120-82-1	70		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-Chloropropane	96-12-8	0.20		5 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane (EDB)	106-93-4	0.050		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	95-50-1	600		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	107-06-2	5	(c)	1.5	1.6	1.4	1.3	1.2	1.2	1.2	1.4	1.0			
1,2-Dichloropropane	78-87-5	5		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	541-73-1	--		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	106-46-7	75		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone (MEK)	78-93-3	560		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	591-78-6	--		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone	108-10-1	630		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	67-64-1	1,400		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	71-43-2	5		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromochloromethane	74-97-5	--		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	75-27-4	80		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	75-25-2	80		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	74-83-9	0.75		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Disulfide	75-15-0	81		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	56-23-5	5		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	108-90-7	100		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	2,100	(d)	3.7	3.7	4.2	3.7	3.9	2.9	3.8	3.7	2.8			
Chloroform	67-66-3	80		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	19		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cyclohexane	110-82-7	--		10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	124-48-1	80		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	75-71-8	--		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	100-41-4	700		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	98-82-8	45		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Appendix A - Table A-1

**Historical Influent Results
Former Kop-Flex Facility
Hanover, Maryland (a)**

Analyte Name	Cas#	MDE Cleanup Standards for Groundwater Type I/II	Influent VSP-1 4/7/2020		Influent VSP-1 7/30/2020		Influent VSP-1 11/12/2020		Influent VSP-1 1/13/2021		Influent VSP-1 4/27/2021		Influent VSP-1 9/21/2021		Influent VSP-1 11/3/2021		Influent VSP-1 1/19/2022		Influent VSP-1 6/26/2022	
			Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U
Methyl Acetate	79-20-9	--	10	U	10	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methyl-t-butyl ether	1634-04-4	20	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylcyclohexane	108-87-2	--	10	U	10	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	75-09-2	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Naphthalene	91-20-3	0.17	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Styrene	100-42-5	100	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene	127-18-4	5 (c)	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Toluene	108-88-3	1,000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Trichloroethene	79-01-6	5 (c)	1.2		1.2		1.1		1.0		1	U	1.0		1	U	1	U	1	U
Trichlorofluoromethane	75-69-4	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	75-01-4	2 (c)	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	156-59-2	70 (c)	1.2		1.4		1.2		1.2		1.2		1.1		1.2		1.3		1	U
cis-1,3-Dichloropropene	10061-01-5	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
m,p-Xylenes	108-38-3	10,000	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
o-Xylene	95-47-6	10,000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	156-60-5	100	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
trans-1,3-Dichloropropene	10061-02-6	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
TOTAL VOCs:		--	293.6		330.9		293.9		254.2		252.3		236.2		250.2		273.4		192.8	
Volatile Organic Compounds (EPA Method 8260 - SIM)																				
1,4-Dioxane	71-55-6	15 (c)	260		110		110		130		91		87		99		100		86	

Appendix A - Table A-1

Historical Influent Results
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Cas#	MDE Cleanup Standards for Groundwater Type I/II	Influent VSP-1 9/28/2022		Influent VSP-1 11/9/2022		Influent VSP-1 1/25/2023		Influent VSP-1 8/30/2023		Influent VSP-1 10/5/2023		Influent VSP-1 1/10/2024		Influent VSP-1 4/4/2024		Influent VSP-1 7/3/2024		Influent VSP-1 10/18/2024		
			Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	Value	U	
Volatile Organic Compounds (EPA Method 8260)																					
1,1,1-Trichloroethane	71-55-6	200 (c)	25		22		17		16		18		13		17		18		18		
1,1,2,2-Tetrachloroethane	79-34-5	0.076	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	--	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
1,1,2-Trichloroethane	79-00-5	5	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
1,1-Dichloroethane	75-34-3	2.8 (d)	47		54		52		46		50		79		62		81		85		
1,1-Dichloroethene	75-35-4	7 (c)	250		230		220		220		240		290		240		280		300		
1,2,3-Trichlorobenzene	87-61-6	--	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
1,2,4-Trichlorobenzene	120-82-1	70	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
1,2-Dibromo-3-Chloropropane	96-12-8	0.20	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
1,2-Dibromoethane (EDB)	106-93-4	0.050	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
1,2-Dichlorobenzene	95-50-1	600	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
1,2-Dichloroethane	107-06-2	5 (c)	1.3		1.7		1.3		1.4		1.6		2.1		1.6		1.8		1.9		
1,2-Dichloropropane	78-87-5	5	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
1,3-Dichlorobenzene	541-73-1	--	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
1,4-Dichlorobenzene	106-46-7	75	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
2-Butanone (MEK)	78-93-3	560	5	U	5	U	5	U	5	U	5	U	5.0	U	5.0	U	5.0	U	5.0	U	
2-Hexanone	591-78-6	--	5	U	5	U	5	U	5	U	5	U	5.0	U	5.0	U	5.0	U	5.0	U	
4-Methyl-2-Pentanone	108-10-1	630	5	U	5	U	5	U	5	U	5	U	5.0	U	5.0	U	5.0	U	5.0	U	
Acetone	67-64-1	1,400	5	U	5	U	5	U	5	U	5	U	5.0	U	5.0	U	5.0	U	5.0	U	
Benzene	71-43-2	5	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
Bromochloromethane	74-97-5	--	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
Bromodichloromethane	75-27-4	80	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
Bromoform	75-25-2	80	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
Bromomethane	74-83-9	0.75	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
Carbon Disulfide	75-15-0	81	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
Carbon Tetrachloride	56-23-5	5	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
Chlorobenzene	108-90-7	100	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
Chloroethane	75-00-3	2,100 (d)	3.6		5.2		4.5		4.3		4.5		11		7.9		8.7		12		
Chloroform	67-66-3	80	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
Chloromethane	74-87-3	19	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
Cyclohexane	110-82-7	--	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
Dibromochloromethane	124-48-1	80	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
Dichlorodifluoromethane	75-71-8	--	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
Ethylbenzene	100-41-4	700	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	
Isopropylbenzene	98-82-8	45	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	

Appendix A - Table A-1

Historical Influent Results
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Cas#	MDE Cleanup Standards for Groundwater Type I/II	Influent VSP-1 9/28/2022		Influent VSP-1 11/9/2022		Influent VSP-1 1/25/2023		Influent VSP-1 8/30/2023		Influent VSP-1 10/5/2023		Influent VSP-1 1/10/2024		Influent VSP-1 4/4/2024		Influent VSP-1 7/3/2024		Influent VSP-1 10/18/2024	
			Concentration	U	Concentration	U	Concentration	U	Concentration	U	Concentration	U	Concentration	U	Concentration	U	Concentration	U	Concentration	U
Methyl Acetate	79-20-9	--	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-t-butyl ether	1634-04-4	20	1	U	1	U	1	U	1	U	1	U	0.55	J	1.0	U	1.0	U	1.0	U
Methylcyclohexane	108-87-2	--	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene Chloride	75-09-2	5	1	U	1	U	1	U	1	U	1	U	1.0	U	0.5	J	1.0	U	1.0	U
Naphthalene	91-20-3	0.17	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	100	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene	127-18-4	5 (c)	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	1,000	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene	79-01-6	5 (c)	1.4		1.3		1.0		1.1		1.3		1.3		1.0		1.3		1.3	
Trichlorofluoromethane	75-69-4	--	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl Chloride	75-01-4	2 (c)	1	U	1	U	1	U	1	U	1	U	1.2		0.8		1.2		1.0	U
cis-1,2-Dichloroethene	156-59-2	70 (c)	1.4		1.7		1.7		1.5		1.7		2.7		2		3		3.2	
cis-1,3-Dichloropropene	10061-01-5	--	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U
m,p-Xylenes	108-38-3	10,000	2	U	2	U	2	U	2	U	2	U	2.0	U	2.0	U	2.0	U	2.0	U
o-Xylene	95-47-6	10,000	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	100	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	--	1	U	1	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U
TOTAL VOCs:		--	329.7		315.9		297.5		290.3		317.1		400.9		332.8		395.0		421.4	
Volatile Organic Compounds (EPA Method 8260 - SIM)																				
1,4-Dioxane	71-55-6	15 (c)	150		120		94		120		110		81		117		75.3		96.9	

Notes:

a/ MDE = Maryland Department of the Environment; EPA = US Environmental Protection Agency; VOC = volatile organic compound; SIM = Selected Ion Monitoring; U = not detected above the method detection limit; -- = no existing cleanup standard.

All concentrations are in micrograms per liter (µg/L).

Results shown in highlight and **bold** exceed the cleanup standard.

b/ All cleanup standards, except for 1,4-dioxane, are equal to the Maryland Generic Numeric Cleanup Standards for Groundwater, Type I and II Aquifers, from the State of Maryland Interim Final Guidance (October 2018). Accessed May 27, 2020: <https://mde.maryland.gov/programs/land/MarylandBrownfieldVCP/Documents/www.mde.state.md.us/assets/document/MDE%20Soil%20and%20Groundwater%20Cleanup%20Standards%2010-2018%20Interim%20Final%20Update%203-2.pdf>

c/ Numeric cleanup standards are equal to those in Section 6 of WSP's October 2, 2015, Response Action Plan, Revision 2.

d/ Numeric cleanup standards for 1,1-dichloroethane and chloroethane reflect the current standards promulgated by the State of Maryland in October 2018 and differ from those in Section 6 of WSP's October 2, 2015, Response Action Plan, Revision 2.

e/ Reduced influent monitoring frequency to quarterly effective July 2018.

Appendix A - Table A-2

Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Units	Cas#	Permit Limits (e)			Sample ID	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	
			Minimum	Monthly Average	Daily Maximum	Date	03/13/2017	3/20/2017	3/29/2017	3/30/2017	4/3/2017	5/8/2017	6/21/2017	7/10/2017			
Volatile Organic Compounds (EPA Method 624.1)																	
1,1,1-Trichloroethane	µg/L	71-55-6	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
1,1,2,2-Tetrachloroethane	µg/L	79-34-5	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
1,1,2-Trichloroethane	µg/L	79-00-5	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
1,1-Dichloroethane	µg/L	75-34-3	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
1,1-Dichloroethene	µg/L	75-35-4	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dichlorobenzene	µg/L	95-50-1	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dichloroethane	µg/L	107-06-2	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dichloropropane	µg/L	78-87-5	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
1,3-Dichlorobenzene	µg/L	541-73-1	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
1,4-Dichlorobenzene	µg/L	106-46-7	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
2-Chloroethyl Vinyl Ether	µg/L	110-75-8	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Acrolein	µg/L	107-02-8	NA		NA		NA		NA	NA		NA		NA		NA	
Acrylonitrile	µg/L	107-13-1	NA		NA		NA		NA	NA		NA		NA		NA	
Benzene	µg/L	71-43-2	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Bromodichloromethane	µg/L	75-27-4	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Bromoform	µg/L	75-25-2	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Bromomethane	µg/L	74-83-9	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Carbon Tetrachloride	µg/L	56-23-5	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Chlorobenzene	µg/L	108-90-7	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Chloroethane	µg/L	75-00-3	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Chloroform	µg/L	67-66-3	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Chloromethane	µg/L	74-87-3	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Dibromochloromethane	µg/L	124-48-1	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Dichlorodifluoromethane	µg/L	75-71-8	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Ethylbenzene	µg/L	100-41-4	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Methylene Chloride	µg/L	75-09-2	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Tetrachloroethylene	µg/L	127-18-4	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Toluene	µg/L	108-88-3	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Trichloroethene	µg/L	79-01-6	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Trichlorofluoromethane	µg/L	75-69-4	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
Vinyl Chloride	µg/L	75-01-4	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
cis-1,3-Dichloropropene	µg/L	10061-01-5	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
trans-1,2-dichloroethene	µg/L	156-60-5	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
trans-1,3-dichloropropene	µg/L	10061-02-6	5.0	U	5.0	U	5.0	U	NA	5.0	U	5.0	U	5.0	U	5.0	U
1,4-Dioxane (e)	µg/L	71-55-6			15		NA		NA	NA		NA		NA		NA	
TOTAL VOCs:					100		ND		ND	ND		ND		ND		ND	

Appendix A - Table A-2

**Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)**

Analyte Name	Units	Cas#	Permit Limits (e)			Sample ID	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4			
			Minimum	Monthly Average	Daily Maximum	Date	03/13/2017	3/20/2017	3/29/2017	3/30/2017	4/3/2017	5/8/2017	6/21/2017	7/10/2017							
Total Metals and Hardness (EPA Method 200.8)																					
Calcium	µg/L	7440-70-2				28,600		3,650		3,400		NA		2,840		NA		3,440		NA	
Copper	µg/L	7440-50-8		9	13	1.0	U	1.0	U	1.0	U	NA		3.2		4.7		4.3		4.6	
Hardness (Ca & Mg) (d)	mg/L	HARDCAMG				91		15		14		NA		12		15		14		14	
Lead	µg/L	7439-92-1		2.5	65	1.0	U	1.0	U	1.0	U	NA		1	U	1	U	1.0	U	1.0	U
Magnesium	µg/L	7439-95-4				4,690		1,470		1,260		NA		1,220		NA		1,400		NA	
Nickel	µg/L	7440-02-0		52	470	1.5		29.9		2.6		NA		7.7		9.4		9.2		9.7	
Zinc	µg/L	7440-66-6		120	120	20	U	179		27.2		NA		24.7		20.2		20	U	23.7	
Dissolved Metals (d)																					
Copper	µg/L	7440-50-8				1.0	U	1.0	U	1.0	U	NA		1.4		3.5		1.9		2.3	
Lead	µg/L	7439-92-1				1.0	U	1.0	U	1.0	U	NA		1.0	U	1.0	U	1.0	U	1.0	U
Nickel	µg/L	7440-02-0				1.0	U	27.3		2.5		NA		8		9.3		9.3		9.3	
Zinc	µg/L	7440-66-6				20	U	163		20	U	NA		20	U	20	U	20	U	20	U
Total Suspended Solids (SM 2540D)																					
Total Suspended Solids	mg/L	TSS		30	45	1.0	U	1.0	U	1.0	U	NA		1.0	U	1.0	U	2.0	U	2.0	U
Biological Oxygen Demand (SM 5210B)																					
Biological Oxygen Demand, 5 Day	mg/L	BOD5		30	45	2.0	U	2.0	U	3.0	U	NA		2.0	U	2.0	U	5.0	U	5.0	U
Field Parameters																					
pH	SU	-		6.5	8.5	7.29		6.88		6.84		NA		6.56		6.72		7.05		7.02	
Dissolved Oxygen	mg/L	-		5.0		7.08		8.14		10.65		NA		7.35		11.05		13.50		15.00	
Total Residual Chlorine (e)	mg/L	-		0.011	0.019	NA		NA		NA		NA		NA		NA		NA		NA	
Daily Flow Rate (b)	gpd	-				43,200		93,600		108,000		NA		103,680		102,240		102,816		99,216	
Nitrogen (c)																					
Nitrogen, Total	lbs/qr					NA		NA		NA		5.71		NA		110.68		NA		98.67	
Ammonia (as N)	mg/L	7664-41-7				NA		NA		NA		0.02	U	NA		0.02	U	NA		0.2	U
Nitrate (as N)	mg/L	7727-37-9				NA		NA		NA		0.68		NA		0.91		NA		0.95	
Nitrite (as N)	mg/L	7727-37-9				NA		NA		NA		0.1	U	NA		0.1	U	NA		0.1	U
Organic Nitrogen (as N)	mg/L	7727-37-9				NA		NA		NA		0.4	U	NA		0.4	U	NA		0.4	U
Nitrogen, Total Kjeldahl	mg/L	7727-37-9				NA		NA		NA		0.4	U	NA		0.4	U	NA		0.4	U

Appendix A - Table A-2

**Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)**

Analyte Name	Units	Cas#	Sample ID Date	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4			
				8/3/2017	9/11/2017	10/9/2017	11/7/2017	12/11/2017	1/10/2018	2/7/2018	3/19/2018	4/17/2018	5/8/2018											
				Permit Limits (e)																				
				Minimum	Monthly Average	Daily Maximum																		
Volatile Organic Compounds (EPA Method 624.1)																								
1,1,1-Trichloroethane	µg/L	71-55-6		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
1,1,2,2-Tetrachloroethane	µg/L	79-34-5		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
1,1,2-Trichloroethane	µg/L	79-00-5		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
1,1-Dichloroethane	µg/L	75-34-3		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
1,1-Dichloroethene	µg/L	75-35-4		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
1,2-Dichlorobenzene	µg/L	95-50-1		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
1,2-Dichloroethane	µg/L	107-06-2		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
1,2-Dichloropropane	µg/L	78-87-5		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
1,3-Dichlorobenzene	µg/L	541-73-1		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
1,4-Dichlorobenzene	µg/L	106-46-7		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
2-Chloroethyl Vinyl Ether	µg/L	110-75-8		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Acrolein	µg/L	107-02-8		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		
Acrylonitrile	µg/L	107-13-1		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		
Benzene	µg/L	71-43-2		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Bromodichloromethane	µg/L	75-27-4		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Bromoform	µg/L	75-25-2		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Bromomethane	µg/L	74-83-9		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Carbon Tetrachloride	µg/L	56-23-5		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Chlorobenzene	µg/L	108-90-7		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Chloroethane	µg/L	75-00-3		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Chloroform	µg/L	67-66-3		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Chloromethane	µg/L	74-87-3		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Dibromochloromethane	µg/L	124-48-1		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Dichlorodifluoromethane	µg/L	75-71-8		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Ethylbenzene	µg/L	100-41-4		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Methylene Chloride	µg/L	75-09-2		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Tetrachloroethylene	µg/L	127-18-4		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Toluene	µg/L	108-88-3		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Trichloroethene	µg/L	79-01-6		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Trichlorofluoromethane	µg/L	75-69-4		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
Vinyl Chloride	µg/L	75-01-4		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
cis-1,3-Dichloropropene	µg/L	10061-01-5		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
trans-1,2-dichloroethene	µg/L	156-60-5		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
trans-1,3-dichloropropene	µg/L	10061-02-6		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	
1,4-Dioxane (e)	µg/L	71-55-6			15			NA		NA		NA		NA		NA		NA		NA		NA		
TOTAL VOCs:				100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	

Appendix A - Table A-2

**Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)**

Analyte Name	Units	Cas#	Permit Limits (e) Minimum	Monthly Average	Daily Maximum	Sample ID	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4
						Date	8/3/2017	9/11/2017	10/9/2017	11/7/2017	12/11/2017	1/10/2018	2/7/2018	3/19/2018	4/17/2018	5/8/2018						
Total Metals and Hardness (EPA Method 200.8)																						
Calcium	µg/L	7440-70-2					NA	NA	NA	NA	NA	NA	NA	NA	3,980	4,030	4,280				NA	
Copper	µg/L	7440-50-8		9	13		5.0	4.6	4.6	1.0	U	4.0	4.2	4.0	4.9	2.1	1.3					
Hardness (Ca & Mg) (d)	mg/L	HARDCAMG					15	16	15	16		16	18	16	17	18	18					
Lead	µg/L	7439-92-1		2.5	65		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Magnesium	µg/L	7439-95-4					NA	NA	NA	NA	NA	NA	NA	1,560	1,620	1,810	NA					
Nickel	µg/L	7440-02-0		52	470		10.1	10.7	10.6	10.8		10.7	11.1	11.2	11.4	8.4	13.2					
Zinc	µg/L	7440-66-6		120	120		22.8	48.9	24.6	21.2		20.6	28.6	22	26.9	28.4	24.5					
Dissolved Metals (d)																						
Copper	µg/L	7440-50-8					1.1	2.7	3.2	1.0	U	2.8	3.1	2.7	4.1	1.9	1.2					
Lead	µg/L	7439-92-1					1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Nickel	µg/L	7440-02-0					1	U	9.7	10.3		10.6	U	11.7	10.8	12.3	8.1	12.3				
Zinc	µg/L	7440-66-6					20	U	20	U	20	U	20.7	20	U	23.8	20	U	20.6			
Total Suspended Solids (SM 2540D)																						
Total Suspended Solids	mg/L	TSS		30	45		1.0	U	1.0	U	1.0	U	2.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Biological Oxygen Demand (SM 5210B)																						
Biological Oxygen Demand, 5 Day	mg/L	BOD5		30	45		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Field Parameters																						
pH	SU	-		6.5	8.5		7.50	8.05	7.41	6.60		7.80	7.48	7.60	7.48	7.99	7.61					
Dissolved Oxygen	mg/L	-		5.0			17.30	16.45	17.60	18.65		17.79	15.60	15.93	15.22	12.13	13.30					
Total Residual Chlorine (e)	mg/L	-		0.011	0.019		NA	NA	NA	NA		NA	NA	NA	NA	NA	NA					
Daily Flow Rate (b)	gpd	-					92,880	92,736	82,878	86,809		95,592	97,690	97,015	88,665	90,352	94,346					
Nitrogen (c)																						
Nitrogen, Total	lbs/qr						NA	NA	93.24	NA		NA	NA	130.22	NA	NA	NA					
Ammonia (as N)	mg/L	7664-41-7					NA	NA	0.2	U	NA	NA	0.2	U	NA	NA	NA					
Nitrate (as N)	mg/L	7727-37-9					NA	NA	0.92		NA	NA	1.4		NA	NA	NA					
Nitrite (as N)	mg/L	7727-37-9					NA	NA	0.1	U	NA	NA	0.1	U	NA	NA	NA					
Organic Nitrogen (as N)	mg/L	7727-37-9					NA	NA	0.4	U	NA	NA	0.4	U	NA	NA	NA					
Nitrogen, Total Kjeldahl	mg/L	7727-37-9					NA	NA	0.4	U	NA	NA	0.4	U	NA	NA	NA					

Appendix A - Table A-2

**Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)**

Analyte Name	Units	Cas#	Sample ID Date	Permit Limits (e)																			
				Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4									
				6/5/2018	7/12/2018	8/8/2018	9/6/2018	10/3/2018	11/6/2018	12/6/2018	1/8/2019	2/5/2019	3/7/2019	Minimum	Monthly Average	Daily Maximum							
Volatile Organic Compounds (EPA Method 624.1)																							
1,1,1-Trichloroethane	µg/L	71-55-6		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	µg/L	79-34-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	µg/L	79-00-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	µg/L	75-34-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	µg/L	75-35-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	µg/L	95-50-1		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	µg/L	107-06-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	µg/L	78-87-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	µg/L	541-73-1		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	µg/L	106-46-7		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chloroethyl Vinyl Ether	µg/L	110-75-8		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	NA	NA	NA	NA	NA	NA	NA	NA
Acrolein	µg/L	107-02-8		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Acrylonitrile	µg/L	107-13-1		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Benzene	µg/L	71-43-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	µg/L	75-27-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	µg/L	75-25-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	µg/L	74-83-9		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Carbon Tetrachloride	µg/L	56-23-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	µg/L	108-90-7		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	µg/L	75-00-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	µg/L	67-66-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	µg/L	74-87-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	µg/L	124-48-1		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane	µg/L	75-71-8		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	µg/L	100-41-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene Chloride	µg/L	75-09-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethylene	µg/L	127-18-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	µg/L	108-88-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene	µg/L	79-01-6		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane	µg/L	75-69-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl Chloride	µg/L	75-01-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	µg/L	10061-01-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-dichloroethene	µg/L	156-60-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-dichloropropene	µg/L	10061-02-6		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dioxane (e)	µg/L	71-55-6		15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL VOCs:				100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Appendix A - Table A-2

Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Units	Cas#	Permit Limits (e) Minimum	Monthly Average	Daily Maximum	Sample ID	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4
						Date	6/5/2018	7/12/2018	8/8/2018	9/6/2018	10/3/2018	11/6/2018	12/6/2018	1/8/2019	2/5/2019	3/7/2019					
Total Metals and Hardness (EPA Method 200.8)																					
Calcium	µg/L	7440-70-2					NA	4,200	4,170	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	µg/L	7440-50-8		9	13		2.4	5.0	4.0	3.8	4.2	2.1	2.9	1.0	U	1.7	3.7				
Hardness (Ca & Mg) (d)	mg/L	HARDCAMG					16	17	17	18	17	18	18	19		18	17				
Lead	µg/L	7439-92-1		2.5	65		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0
Magnesium	µg/L	7439-95-4					NA	1,650	1,690	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	µg/L	7440-02-0		52	470		11.6	12.6	12.1	12.0	12.0	13.3	13	16.6		13.6	12.6				
Zinc	µg/L	7440-66-6		120	120		32.4	27.9	25.8	26.0	31.8	20	U	23.4	26.5	27.5	25.8				
Dissolved Metals (d)																					
Copper	µg/L	7440-50-8					1.4	3.4	2.6	2.2	2.8	1.2	2.3	1.0	U	1.0	U	3.2			
Lead	µg/L	7439-92-1					1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0
Nickel	µg/L	7440-02-0					10.0	11.6	11.6	10.9	11.6	11.6	12.1	14		13.2	11.3				
Zinc	µg/L	7440-66-6					20.0	U	21.2	51.6	20	U	28.4	20	U	20.7	20	U	20.5	20.7	20
Total Suspended Solids (SM 2540D)																					
Total Suspended Solids	mg/L	TSS		30	45		2.0	U	2.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0
Biological Oxygen Demand (SM 5210B)																					
Biological Oxygen Demand, 5 Day	mg/L	BOD5		30	45		5.0	U	5.0	U	2.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0
Field Parameters																					
pH	SU	-		6.5	8.5		7.53	7.74	6.94	8.05	6.80	6.81	6.97	6.85	6.75	7.20					
Dissolved Oxygen	mg/L	-		5.0			12.63	11.76	12.45	13.12	8.50	10.33	12.15	8.82	8.85	7.51					
Total Residual Chlorine (e)	mg/L	-		0.011	0.019		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Daily Flow Rate (b)	gpd	-					97,707	96,390	85,875	96,894	93,553	77,496	87,236	92,672	97,420	98,934					
Nitrogen (c)																					
Nitrogen, Total	lbs/qr						NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Ammonia (as N)	mg/L	7664-41-7					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Nitrate (as N)	mg/L	7727-37-9					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Nitrite (as N)	mg/L	7727-37-9					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Organic Nitrogen (as N)	mg/L	7727-37-9					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Nitrogen, Total Kjeldahl	mg/L	7727-37-9					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					

Appendix A - Table A-2

Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Units	Cas#	Sample ID Date	Effluent VSP-4		Effluent VSP-4		Effluent VSP-4		Effluent VSP-4		Effluent VSP-4		Effluent VSP-4		Effluent VSP-4		Effluent VSP-4		Effluent VSP-4			
				4/4/2019	5/8/2019	6/12/2019	7/2/2019	8/1/2019	9/4/2019	10/16/2019	11/4/2019	12/2/2019	1/9/2020	Permit Limits (e) Minimum	Monthly Average	Daily Maximum							
Volatile Organic Compounds (EPA Method 624.1)																							
1,1,1-Trichloroethane	µg/L	71-55-6		1.0	U	1.0	U	3.4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	µg/L	79-34-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	µg/L	79-00-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	µg/L	75-34-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	µg/L	75-35-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	µg/L	95-50-1		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	µg/L	107-06-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	µg/L	78-87-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	µg/L	541-73-1		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	µg/L	106-46-7		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chloroethyl Vinyl Ether	µg/L	110-75-8		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Acrolein	µg/L	107-02-8		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Acrylonitrile	µg/L	107-13-1		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Benzene	µg/L	71-43-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	µg/L	75-27-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	µg/L	75-25-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	µg/L	74-83-9		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Carbon Tetrachloride	µg/L	56-23-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	µg/L	108-90-7		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	µg/L	75-00-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	µg/L	67-66-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	µg/L	74-87-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	µg/L	124-48-1		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane	µg/L	75-71-8		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	µg/L	100-41-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene Chloride	µg/L	75-09-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethylene	µg/L	127-18-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	µg/L	108-88-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene	µg/L	79-01-6		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane	µg/L	75-69-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl Chloride	µg/L	75-01-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	µg/L	10061-01-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-dichloroethene	µg/L	156-60-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-dichloropropene	µg/L	10061-02-6		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dioxane (e)	µg/L	71-55-6						15		NA		NA		NA		NA		NA		NA		NA	
TOTAL VOCs:								100		ND		ND		ND		ND		ND		ND		ND	

Appendix A - Table A-2

Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Units	Cas#	Permit Limits (e) Minimum	Monthly Average	Daily Maximum	Sample ID	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4
						Date	4/4/2019	5/8/2019	6/12/2019	7/2/2019	8/1/2019	9/4/2019	10/16/2019	11/4/2019	12/2/2019	1/9/2020					
Total Metals and Hardness (EPA Method 200.8)																					
Calcium	µg/L	7440-70-2					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	µg/L	7440-50-8		9	13		3.9	4.3	5	2.6	1.4	3.8	3.7	3.9	3.6	2.7					
Hardness (Ca & Mg) (d)	mg/L	HARDCAMG					16	18	21	19	17	20	18	17	14	20					
Lead	µg/L	7439-92-1		2.5	65		1.0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Magnesium	µg/L	7439-95-4					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Nickel	µg/L	7440-02-0		52	470		11.6	13.2	13.9	8.9	8.9	13.8	13.0	13.0	12.3	13.1					
Zinc	µg/L	7440-66-6		120	120		22.4	25.1	29.5	39.4	22.2	25.2	28.9	28.0	26.8	25.3					
Dissolved Metals (d)																					
Copper	µg/L	7440-50-8					3.2	3.5	3.4	2.0	1.0	U	1.6	1.6	1.5	1.1	3.6				
Lead	µg/L	7439-92-1					1.0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Nickel	µg/L	7440-02-0					13.3	12.4	12.6	9.0	8.8	13.0	12.5	12.6	11.8	13.3					
Zinc	µg/L	7440-66-6					20	20	U	20.3	20	U	20.1	20.9	28.8	20	U	22.4			
Total Suspended Solids (SM 2540D)																					
Total Suspended Solids	mg/L	TSS		30	45		1.0	1.0	U	2.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Biological Oxygen Demand (SM 5210B)																					
Biological Oxygen Demand, 5 Day	mg/L	BOD5		30	45		5.0	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Field Parameters																					
pH	SU	-		6.5	8.5		7.15	6.72	6.55	6.52	7.01	6.79	6.99	6.99	7.06	6.55					
Dissolved Oxygen	mg/L	-		5.0			7.17	7.28	9.86	7.78	7.76	5.75	8.30	6.94	8.46	8.16					
Total Residual Chlorine (e)	mg/L	-		0.011	0.019		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Daily Flow Rate (b)	gpd	-					104,205	101,014	95,834	98,658	93,473	74,748	69,097	96,262	79,991	77,418					
Nitrogen (c)																					
Nitrogen, Total	lbs/qtr						NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Ammonia (as N)	mg/L	7664-41-7					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Nitrate (as N)	mg/L	7727-37-9					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Nitrite (as N)	mg/L	7727-37-9					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Organic Nitrogen (as N)	mg/L	7727-37-9					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Nitrogen, Total Kjeldahl	mg/L	7727-37-9					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					

Appendix A - Table A-2

Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Units	Cas#	Sample ID Date	Effluent VSP-4																			
				2/4/2020	3/24/2020	4/7/2020	5/28/2020	6/29/2020	7/30/2020	8/26/2020	9/28/2020	10/26/2020	11/12/2020	12/3/2020									
				Permit Limits (e) Minimum	Monthly Average	Daily Maximum																	
Volatile Organic Compounds (EPA Method 624.1)																							
1,1,1-Trichloroethane	µg/L	71-55-6		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	µg/L	79-34-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	µg/L	79-00-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	µg/L	75-34-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	µg/L	75-35-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	µg/L	95-50-1		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	µg/L	107-06-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	µg/L	78-87-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	µg/L	541-73-1		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	µg/L	106-46-7		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chloroethyl Vinyl Ether	µg/L	110-75-8		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Acrolein	µg/L	107-02-8		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Acrylonitrile	µg/L	107-13-1		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Benzene	µg/L	71-43-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	µg/L	75-27-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	µg/L	75-25-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	µg/L	74-83-9		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Carbon Tetrachloride	µg/L	56-23-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	µg/L	108-90-7		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	µg/L	75-00-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	µg/L	67-66-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	µg/L	74-87-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	µg/L	124-48-1		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane	µg/L	75-71-8		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	µg/L	100-41-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene Chloride	µg/L	75-09-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethylene	µg/L	127-18-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	µg/L	108-88-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene	µg/L	79-01-6		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane	µg/L	75-69-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl Chloride	µg/L	75-01-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	µg/L	10061-01-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-dichloroethene	µg/L	156-60-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-dichloropropene	µg/L	10061-02-6		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dioxane (e)	µg/L	71-55-6		15	NA	NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL VOCs:				100	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND	

Appendix A - Table A-2

Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Units	Cas#	Permit Limits (e)			Sample ID	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4				
			Minimum	Monthly Average	Daily Maximum	Date	2/4/2020	3/24/2020	4/7/2020	5/28/2020	6/29/2020	7/30/2020	8/26/2020	9/28/2020	10/26/2020	11/12/2020	12/3/2020										
Total Metals and Hardness (EPA Method 200.8)																											
Calcium	µg/L	7440-70-2				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Copper	µg/L	7440-50-8	9	13		1.0	U	3.3		1.8		2.6		5.5		2.7		5.0		6.2		6.7		2.2		2.7	
Hardness (Ca & Mg) (d)	mg/L	HARDCAMG				13.0		17		20		18		19		25		15		18		14		24		24	
Lead	µg/L	7439-92-1	2.5	65		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Magnesium	µg/L	7439-95-4				NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nickel	µg/L	7440-02-0	52	470		4.5		9.2		14.3		15.8		14.5		17.0		13.8		16.3		20.0		16.6		17.7	
Zinc	µg/L	7440-66-6	120	120		20.0	U	23.2		32.1		32.4		29.1		33.6		27.6		28.1		32.6		31.3		27.5	
Dissolved Metals (d)																											
Copper	µg/L	7440-50-8				1.0	U	3.2		1.3		1.2		1.0	U	1.6		3.0		3.8		3.3		1.3		1.3	
Lead	µg/L	7439-92-1				1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Nickel	µg/L	7440-02-0				1.5		11.6		13.8		14.9		14.8		15.0		14.3		15.6		15.0		15.7		17.2	
Zinc	µg/L	7440-66-6				20.0	U	22.4		25.1		23.4		24.3		28.6		25.9		23.2		21.5		21.4		22.7	
Total Suspended Solids (SM 2540D)																											
Total Suspended Solids	mg/L	TSS	30	45		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	2.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Biological Oxygen Demand (SM 5210B)																											
Biological Oxygen Demand, 5 Day	mg/L	BOD5	30	45		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Field Parameters																											
pH	SU	-	6.5	8.5		8.14		6.63		6.76		7.01		6.82		7.23		7.20		6.98		7.63		6.96		7.67	
Dissolved Oxygen	mg/L	-	5.0			8.13		6.95		8.44		8.34		8.72		7.85		8.32		7.92		8.30		9.15		9.01	
Total Residual Chlorine (e)	mg/L		0.011	0.019		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Daily Flow Rate (b)	gpd	-				85,908		43,238		77,089		58,459		59,217		73,109		88,076		57,272		90,297		98,368		100,433	
Nitrogen (c)																											
Nitrogen, Total	lbs/qr					NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ammonia (as N)	mg/L	7664-41-7				NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrate (as N)	mg/L	7727-37-9				NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrite (as N)	mg/L	7727-37-9				NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Organic Nitrogen (as N)	mg/L	7727-37-9				NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Nitrogen, Total Kjeldahl	mg/L	7727-37-9				NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	

Appendix A - Table A-2

Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Units	Cas#	Sample ID Date	Effluent VSP-4																			
				1/13/2021	2/9/2021	3/18/2021	4/27/2021	5/27/2021	6/24/2021	7/29/2021	8/31/2021	9/21/2021	10/7/2021	11/3/2021									
				Permit Limits (e) Minimum	Monthly Average	Daily Maximum																	
Volatile Organic Compounds (EPA Method 624.1)																							
1,1,1-Trichloroethane	µg/L	71-55-6		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	µg/L	79-34-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	µg/L	79-00-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	µg/L	75-34-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	µg/L	75-35-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	µg/L	95-50-1		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	µg/L	107-06-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	µg/L	78-87-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	µg/L	541-73-1		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	µg/L	106-46-7		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chloroethyl Vinyl Ether	µg/L	110-75-8		NA		NA		NA		NA		NA		NA		NA		NA		NA		1.0	U
Acrolein	µg/L	107-02-8		NA		NA		NA		NA		NA		NA		NA		NA		NA		5.0	U
Acrylonitrile	µg/L	107-13-1		NA		NA		NA		NA		NA		NA		NA		NA		NA		5.0	U
Benzene	µg/L	71-43-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	µg/L	75-27-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	µg/L	75-25-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	µg/L	74-83-9		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Carbon Tetrachloride	µg/L	56-23-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	µg/L	108-90-7		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	µg/L	75-00-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	µg/L	67-66-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	µg/L	74-87-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	µg/L	124-48-1		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane	µg/L	75-71-8		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	µg/L	100-41-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene Chloride	µg/L	75-09-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethylene	µg/L	127-18-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	µg/L	108-88-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene	µg/L	79-01-6		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane	µg/L	75-69-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl Chloride	µg/L	75-01-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	µg/L	10061-01-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-dichloroethene	µg/L	156-60-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-dichloropropene	µg/L	10061-02-6		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dioxane (e)	µg/L	71-55-6			15	NA		NA		NA		NA		NA		NA		NA		NA		NA	
TOTAL VOCs:				100	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND	

Appendix A - Table A-2

Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Units	Cas#	Sample ID Date	Effluent VSP-4																			
				1/13/2021	2/9/2021	3/18/2021	4/27/2021	5/27/2021	6/24/2021	7/29/2021	8/31/2021	9/21/2021	10/7/2021	11/3/2021									
				Permit Limits (e) Minimum	Monthly Average	Daily Maximum																	
Total Metals and Hardness (EPA Method 200.8)																							
Calcium	µg/L	7440-70-2		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Copper	µg/L	7440-50-8		9	13	6.2	4.7	3.5	3.0	2.3	1.0	U	2.7	5.9	3.2	1.0	U	7.3					
Hardness (Ca & Mg) (d)	mg/L	HARDCAMG				44	21	23	21	20	20		7.4	19	25	24		23					
Lead	µg/L	7439-92-1		2.5	65	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Magnesium	µg/L	7439-95-4				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	µg/L	7440-02-0		52	470	14.5	8.2	21.0	19.7	10.7	8.6		13.9	21.3	14.2	3.4		995					
Zinc	µg/L	7440-66-6		120	120	27.1	20.8	26.9	30.1	26.3	22.2		88.2	34.9	31.4	54.2		33.4					
Dissolved Metals (d)																							
Copper	µg/L	7440-50-8				3.4	1.4	1.9	1.8	1.6	1.0	U	1.9	3.0	2.7	1.0	U	3.7					
Lead	µg/L	7439-92-1				1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Nickel	µg/L	7440-02-0				13.6	7.9	18.9	18.4	9.2	8.4		14.0	17.5	13.4	3.0		16.1					
Zinc	µg/L	7440-66-6				20.2	20	U	23.1	30.9	23.2	20	U	84.7	23.0	30.5	41.6	28.2					
Total Suspended Solids (SM 2540D)																							
Total Suspended Solids	mg/L	TSS		30	45	1.0	U	1.1	1.0	U	1.7	1.0	U	2.0	1.0	U	1.8	1.0	U	1.0	U	1.0	U
Biological Oxygen Demand (SM 5210B)																							
Biological Oxygen Demand, 5 Day	mg/L	BOD5		30	45	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Field Parameters																							
pH	SU	-		6.5	8.5	7.58	7.76	8.03	7.70	7.32	7.81	7.45	7.56	7.41	7.70	6.90							
Dissolved Oxygen	mg/L	-		5.0		8.41	7.80	8.11	7.52	7.88	7.89	7.20	10.88	8.76	11.25	14.33							
Total Residual Chlorine (e)	mg/L	-		0.011	0.019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
Daily Flow Rate (b)	gpd	-				101,699	92,706	103,848	104,287	92,458	53,993	11,266	4,680	59,040	78,445	23,608							
Nitrogen (c)																							
Nitrogen, Total	lbs/qr	-				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
Ammonia (as N)	mg/L	7664-41-7				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
Nitrate (as N)	mg/L	7727-37-9				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
Nitrite (as N)	mg/L	7727-37-9				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
Organic Nitrogen (as N)	mg/L	7727-37-9				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
Nitrogen, Total Kjeldahl	mg/L	7727-37-9				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							

Appendix A - Table A-2

Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Units	Cas#	Sample ID Date	Effluent VSP-4																			
				11/19/2021	12/29/2021	1/19/2022	2/9/2022	3/17/2022	4/12/2022	6/29/2022	8/24/2022	9/28/2022	10/20/2022	11/9/2022									
				Permit Limits (e) Minimum	Monthly Average	Daily Maximum																	
Volatile Organic Compounds (EPA Method 624.1)																							
1,1,1-Trichloroethane	µg/L	71-55-6	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	µg/L	79-34-5	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	µg/L	79-00-5	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	µg/L	75-34-3	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	µg/L	75-35-4	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	µg/L	95-50-1	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	µg/L	107-06-2	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	µg/L	78-87-5	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	µg/L	541-73-1	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	µg/L	106-46-7	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chloroethyl Vinyl Ether	µg/L	110-75-8	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acrolein	µg/L	107-02-8	NA	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Acrylonitrile	µg/L	107-13-1	NA	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Benzene	µg/L	71-43-2	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	µg/L	75-27-4	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	µg/L	75-25-2	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	µg/L	74-83-9	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Carbon Tetrachloride	µg/L	56-23-5	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	µg/L	108-90-7	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	µg/L	75-00-3	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	µg/L	67-66-3	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	µg/L	74-87-3	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	µg/L	124-48-1	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane	µg/L	75-71-8	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	µg/L	100-41-4	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene Chloride	µg/L	75-09-2	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethylene	µg/L	127-18-4	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	µg/L	108-88-3	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene	µg/L	79-01-6	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane	µg/L	75-69-4	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl Chloride	µg/L	75-01-4	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	µg/L	10061-01-5	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-dichloroethene	µg/L	156-60-5	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-dichloropropene	µg/L	10061-02-6	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dioxane (e)	µg/L	71-55-6																					
TOTAL VOCs:				100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Appendix A - Table A-2

Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Units	Cas#	Permit Limits (e)			Sample ID	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	
			Minimum	Monthly Average	Daily Maximum	Date	11/19/2021	12/29/2021	1/19/2022	2/9/2022	3/17/2022	4/12/2022	6/29/2022	8/24/2022	9/28/2022	10/20/2022	11/9/2022						
Total Metals and Hardness (EPA Method 200.8)																							
Calcium	µg/L	7440-70-2				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Copper	µg/L	7440-50-8		9	13	NA	4.2	4.8	4.1	1.1	1.8	5.0	6.9	1.5	6.7	9.5							
Hardness (Ca & Mg) (d)	mg/L	HARDCAMG				NA	21	28	18	21	22	22	18	23	21								
Lead	µg/L	7439-92-1		2.5	65	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	
Magnesium	µg/L	7439-95-4				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Nickel	µg/L	7440-02-0		52	470	24.4	16.6	16.2	16.1	20.0	21.8	15.2	16.5	7.6	21.1	20.4							
Zinc	µg/L	7440-66-6		120	120	NA	28.0	30.1	35.5	34.6	33.9	47.0	34.5	23.0	41.8	41.8							
Dissolved Metals (d)																							
Copper	µg/L	7440-50-8				NA	2.0	2.6	2.3	1.0	U	1.0	3.0	3.8	1.0	U	2.1	6.0					
Lead	µg/L	7439-92-1				NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	
Nickel	µg/L	7440-02-0				16.2	13.4	16.3	14.9	19.4	21.6	13.1	15.0	7.0	18.5	17.3							
Zinc	µg/L	7440-66-6				NA	20	U	24.7	29.4	32.9	32.0	36.7	21.4	21.4	28.1	40.1						
Total Suspended Solids (SM 2540D)																							
Total Suspended Solids	mg/L	TSS		30	45	NA	1.0	U	2.0	U	1.0	U	1.7	1.0	U	1.0	U	1.0	U	2.1	U	1.0	U
Biological Oxygen Demand (SM 5210B)																							
Biological Oxygen Demand, 5 Day	mg/L	BOD5		30	45	NA	5.0	U	5.0	U	22.4	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	2.0	U
Field Parameters																							
pH	SU	-		6.5	8.5	NA	7.46	7.90	7.60	7.73	7.25	7.36	8.20	7.10	7.80	6.79							
Dissolved Oxygen	mg/L	-		5.0		NA	11.37	8.14	7.70	6.55	8.12	5.88	8.13	9.37	10.18	8.70							
Total Residual Chlorine (e)	mg/L	-		0.011	0.019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
Daily Flow Rate (b)	gpd	-				NA	15,039	95,197	87,402	77,231	86,248	566	39,459	59,608	87,997	94,584							
Nitrogen (c)																							
Nitrogen, Total	lbs/qr					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
Ammonia (as N)	mg/L	7664-41-7				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
Nitrate (as N)	mg/L	7727-37-9				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
Nitrite (as N)	mg/L	7727-37-9				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
Organic Nitrogen (as N)	mg/L	7727-37-9				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
Nitrogen, Total Kjeldahl	mg/L	7727-37-9				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							

Appendix A - Table A-2

**Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)**

Analyte Name	Units	Cas#	Sample ID Date	Effluent VSP-4																			
				11/30/2022	12/7/2022	1/25/2023	2/8/2023	3/8/2023	8/30/2023	9/28/2023	10/5/2023	11/30/2023	12/15/2023										
				Permit Limits (e) Minimum	Monthly Average	Daily Maximum																	
Volatile Organic Compounds (EPA Method 624.1)																							
1,1,1-Trichloroethane	µg/L	71-55-6	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,1,2,2-Tetrachloroethane	µg/L	79-34-5	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,1,2-Trichloroethane	µg/L	79-00-5	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,1-Dichloroethane	µg/L	75-34-3	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,1-Dichloroethene	µg/L	75-35-4	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.7		1.0	U	1.0	U		
1,2-Dichlorobenzene	µg/L	95-50-1	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,2-Dichloroethane	µg/L	107-06-2	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,2-Dichloropropane	µg/L	78-87-5	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,3-Dichlorobenzene	µg/L	541-73-1	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,4-Dichlorobenzene	µg/L	106-46-7	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
2-Chloroethyl Vinyl Ether	µg/L	110-75-8	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Acrolein	µg/L	107-02-8	NA	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U		
Acrylonitrile	µg/L	107-13-1	NA	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U		
Benzene	µg/L	71-43-2	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Bromodichloromethane	µg/L	75-27-4	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Bromoform	µg/L	75-25-2	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Bromomethane	µg/L	74-83-9	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Carbon Tetrachloride	µg/L	56-23-5	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Chlorobenzene	µg/L	108-90-7	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Chloroethane	µg/L	75-00-3	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Chloroform	µg/L	67-66-3	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Chloromethane	µg/L	74-87-3	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Dibromochloromethane	µg/L	124-48-1	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Dichlorodifluoromethane	µg/L	75-71-8	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Ethylbenzene	µg/L	100-41-4	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Methylene Chloride	µg/L	75-09-2	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Tetrachloroethylene	µg/L	127-18-4	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Toluene	µg/L	108-88-3	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Trichloroethene	µg/L	79-01-6	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Trichlorofluoromethane	µg/L	75-69-4	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Vinyl Chloride	µg/L	75-01-4	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
cis-1,3-Dichloropropene	µg/L	10061-01-5	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
trans-1,2-dichloroethene	µg/L	156-60-5	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
trans-1,3-dichloropropene	µg/L	10061-02-6	NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,4-Dioxane (e)	µg/L	71-55-6		15		NA		NA		NA		NA		NA		NA		NA		1.0	U	1.0	U
TOTAL VOCs:				100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7	ND	ND	ND	ND	ND	ND	

Appendix A - Table A-2

Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Units	Cas#	Permit Limits (e)			Sample ID	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	
			Minimum	Monthly Average	Daily Maximum	Date	11/30/2022	12/7/2022	1/25/2023	2/8/2023	3/8/2023	8/30/2023	9/28/2023	10/5/2023	11/30/2023	12/15/2023					
Total Metals and Hardness (EPA Method 200.8)																					
Calcium	µg/L	7440-70-2				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Copper	µg/L	7440-50-8		9	13	3.4	5.5	8.0	6.6	6.6	4.5	6.8	3.0	3.8	4.0						
Hardness (Ca & Mg) (d)	mg/L	HARDCAMG				NA	23	25	23	23	26	26	22	NA	NA						
Lead	µg/L	7439-92-1		2.5	65	NA	1.0	U	1.0	U	3.0	1.0	U	5.0	1.0	U	1.0	U	1.0	U	
Magnesium	µg/L	7439-95-4				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	U	NA	U	NA	U	
Nickel	µg/L	7440-02-0		52	470	NA	14.9	15.2	17.8	18.2	16.5	4.3	16.7	18.6	19.2						
Zinc	µg/L	7440-66-6		120	120	NA	30.9	38.4	32.3	34.5	30.4	32.1	26.5	28.8	29.9						
Dissolved Metals (d)																					
Copper	µg/L	7440-50-8				NA	4.1	4.1	4.2	4.3	2.1	2.2	2.1	NA	NA						
Lead	µg/L	7439-92-1				NA	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	NA	NA	
Nickel	µg/L	7440-02-0				NA	16.6	13.5	17.3	17.7	14.5	1.5	15.8	NA	NA						
Zinc	µg/L	7440-66-6				NA	31.3	23.7	25.2	22.1	25.9	20	U	28.2	NA	NA					
Total Suspended Solids (SM 2540D)																					
Total Suspended Solids	mg/L	TSS		30	45	NA	2.2	U	1.0	U	1.0	U	1.0	U	1.9	2.1	U	2.1	U	1.1	2.0
Biological Oxygen Demand (SM 5210B)																					
Biological Oxygen Demand, 5 Day	mg/L	BOD5		30	45	NA	2	U	2	U	2	U	2	U	2	U	2	U	2	U	NA
Field Parameters																					
pH	SU	-		6.5	8.5	NA	6.60	7.15	7.15	7.39	6.90	6.64	6.88	7.05	6.87						
Dissolved Oxygen	mg/L	-		5.0		NA	8.40	5.80	7.94	7.72	7.24	8.65	9.35	8.00	8.22						
Total Residual Chlorine (e)	mg/L	-		0.011	0.019	NA	NA	NA	NA	NA	NA	NA	NA	0.10	U	0.10	U				
Daily Flow Rate (b)	gpd	-				NA	90,807	82,606	96,173	91,030	36,630	38,054	68,101	52,710	79,094						
Nitrogen (c)																					
Nitrogen, Total	lbs/qtr					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Ammonia (as N)	mg/L	7664-41-7				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Nitrate (as N)	mg/L	7727-37-9				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Nitrite (as N)	mg/L	7727-37-9				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Organic Nitrogen (as N)	mg/L	7727-37-9				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Nitrogen, Total Kjeldahl	mg/L	7727-37-9				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						

Appendix A - Table A-2

Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Units	Cas#	Sample ID Date	Effluent VSP-4		Effluent VSP-4		Effluent VSP-4		Effluent VSP-4		Effluent VSP-4		Effluent VSP-4		Effluent VSP-4		Effluent VSP-4		Effluent VSP-4		Effluent VSP-4		Effluent VSP-4					
				1/10/2024	2/7/2024	3/14/2024	4/4/2024	5/13/2024	6/7/2024	7/3/2024	8/28/2024	9/12/2024	10/18/2024	11/18/2024	12/16/2024	1/10/2024	2/7/2024	3/14/2024	4/4/2024	5/13/2024	6/7/2024	7/3/2024	8/28/2024	9/12/2024	10/18/2024	11/18/2024	12/16/2024		
				Minimum	Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Minimum	Monthly Average
Volatile Organic Compounds (EPA Method 624.1)																													
1,1,1-Trichloroethane	µg/L	71-55-6		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	µg/L	79-34-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	µg/L	79-00-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	µg/L	75-34-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	0.67	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	µg/L	75-35-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	2.4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	µg/L	95-50-1		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	0.56	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	µg/L	107-06-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	µg/L	78-87-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	µg/L	541-73-1		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	0.65	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	µg/L	106-46-7		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chloroethyl Vinyl Ether	µg/L	110-75-8		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acrolein	µg/L	107-02-8		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Acrylonitrile	µg/L	107-13-1		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Benzene	µg/L	71-43-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	µg/L	75-27-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	µg/L	75-25-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	µg/L	74-83-9		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Carbon Tetrachloride	µg/L	56-23-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	µg/L	108-90-7		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	µg/L	75-00-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	0.51	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	µg/L	67-66-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	µg/L	74-87-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	µg/L	124-48-1		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane	µg/L	75-71-8		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	µg/L	100-41-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene Chloride	µg/L	75-09-2		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethylene	µg/L	127-18-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	µg/L	108-88-3		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene	µg/L	79-01-6		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane	µg/L	75-69-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl Chloride	µg/L	75-01-4		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	µg/L	10061-01-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-dichloroethene	µg/L	156-60-5		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-dichloropropene	µg/L	10061-02-6		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dioxane (e)	µg/L	71-55-6		15		1.0	U	1.4		1.0	U	1.0	U	2.0		1.0	U	3.1		1.0	U	1.0	U	7.1		1.0	U	3.0	
TOTAL VOCs:				100	ND	ND		ND		ND		ND		ND		ND		4.79		ND		ND		ND		ND		ND	

Appendix A - Table A-2

Historical Effluent Results - NPDES Permit Constituents
Former Kop-Flex Facility
Hanover, Maryland (a)

Analyte Name	Units	Cas#	Permit Limits (e)			Sample ID	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	Effluent VSP-4	
			Minimum	Monthly Average	Daily Maximum	Date	1/10/2024	2/7/2024	3/14/2024	4/4/2024	5/13/2024	6/7/2024	7/3/2024	8/28/2024	9/12/2024	10/18/2024	11/18/2024	12/16/2024						
Total Metals and Hardness (EPA Method 200.8)																								
Calcium	µg/L	7440-70-2				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Copper	µg/L	7440-50-8	9	13		4.4	5.1	1.1	1.4	6.4	4.0	3.5	3.1	3.6	16	8.9	12.9							
Hardness (Ca & Mg) (d)	mg/L	HARDCAMG				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Lead	µg/L	7439-92-1	2.5	65		1.0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	0.69	J	1.0	U	1.0	U
Magnesium	µg/L	7439-95-4				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Nickel	µg/L	7440-02-0	52	470		20.4	21.1	7.0	30.1	22.0	16.6	16.6	17.4	5.0	18.2	16.3	19.7							
Zinc	µg/L	7440-66-6	120	120		30.8	29.2	34.4	43.8	37.1	31.0	34.2	36.8	16.2	J	35.8	33.7	43.7						
Dissolved Metals (d)																								
Copper	µg/L	7440-50-8				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Lead	µg/L	7439-92-1				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Nickel	µg/L	7440-02-0				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Zinc	µg/L	7440-66-6				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Total Suspended Solids (SM 2540D)																								
Total Suspended Solids	mg/L	TSS	30	45		1.0	U	1.1	1.0	U	2.1	U	1.7	J	1.6	J	1.1	U	1.8	1.8	1.0	U	1.0	U
Biological Oxygen Demand (SM 5210B)																								
Biological Oxygen Demand, 5 Day	mg/L	BOD5	30	45		2	U	NA	NA	2	NA	NA	2	U	NA	NA	2	U	NA	NA	2	U	NA	NA
Field Parameters																								
pH	SU	-	6.5	8.5		6.95	6.58	7.37	7.10	7.10	6.53	7.19	6.87	6.54	7.20	7.23	8.17							
Dissolved Oxygen	mg/L	-	5.0			8.07	8.55	8.15	8.15	8.81	8.81	7.92	8.29	8.09	5.83	6.93	5.92							
Total Residual Chlorine (e)	mg/L		0.011	0.019		0.10	U	0.10	U	0.10	U	0.02	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
Daily Flow Rate (b)	gpd	-				85,354	86,899	87,099	86,647	70,186	50,843	15,490	7,397	21,193	38,874	46,725	33,205							
Nitrogen (c)																								
Nitrogen, Total	lbs/qrtr					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ammonia (as N)	mg/L	7664-41-7				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Nitrate (as N)	mg/L	7727-37-9				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Nitrite (as N)	mg/L	7727-37-9				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Organic Nitrogen (as N)	mg/L	7727-37-9				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Nitrogen, Total Kjeldahl	mg/L	7727-37-9				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Notes:
a/ EPA = US Environmental Protection Agency; SM = Standard Method; VOC = volatile organic compound; µg/L = micrograms per liter; mg/L = milligrams per liter; SU = Standard Units; gpd = gallons per day; lbs/qrtr = pounds per quarter; N = Nitrogen; U = not detected above the method detection limit; ND = non-detected sum; NA = compound not analyzed
Results shown in highlight and **bold** exceed the NPDES Permit limit (except for 1,4-dioxane, see note e).
b/ Daily Flow Rate determined by average of gallons processed per day per monitoring window.
c/ Nitrogen parameters no longer analyzed after the first quarter 2018 per Maryland Department of the Environment correspondence dated March 30, 2018.
d/ Under the renewed NPDES Permit (effective November 1, 2023), hardness and dissolved metals were removed from the Permit monitoring requirements.
e/ The renewed NPDES Permit (effective November 1, 2023) added monthly total residual chlorine monitoring, with monthly average and daily maximum Permit limits. Given the minimum practical quantification level for total residual chlorine is 0.10 mg/L, all detections below 0.10 mg/L are considered non-detect. Also added to the Permit were monthly average Permit limits for total lead and total nickel, and required monthly 1,4-dioxane monitoring. The renewed Permit does not include a discharge limit for 1,4-dioxane; the limit provided is the numeric cleanup standard from Section 6 of WSP's October 2, 2015, Response Action Plan, Revision 2.

APPENDIX

B LABORATORY RESULTS FOR SYSTEM SAMPLING

Project Name: Kop-Flex
PSS Project No.: 24011021

January 24, 2024

Eric Johnson
WSP USA - Herndon
13530 Dulles Technology Dr, Ste 300
Herndon, VA 20171

Reference: PSS Project No: **24011021**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 31405608.010/0202



Dear Eric Johnson:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24011021**.

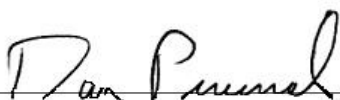
All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on February 14, 2024, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,


Dan Prucnal

Laboratory Manager

Sample Summary

Project Name: Kop-Flex
 PSS Project No.: 24011021

The following samples were received under chain of custody by Phase Separation Science (PSS) on 01/10/2024 at 01:00 pm
 Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any
 sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24011021-001	Effluent VSP-4	WASTE WATER	01/10/24 12:00

Report Information

Project Name: Kop-Flex
PSS Project No.: 24011021

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24011021

Sample ID: Effluent VSP-4 **Date/Time Sampled: 01/10/2024 12:00** **PSS Sample ID: 24011021-001**
Matrix: WASTE WATER **Date/Time Received: 01/10/2024 13:00**

Total Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Copper	4.4	ug/L	1.0		1	0.98	01/10/24	01/11/24 03:56	1059
Lead	ND	ug/L	1.0		1	0.66	01/10/24	01/11/24 03:56	1059
Nickel	20.4	ug/L	1.00		1	0.95	01/10/24	01/11/24 03:56	1059
Zinc	30.8	ug/L	20.0		1	7.1	01/10/24	01/11/24 03:56	1059

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 209785 on Case Narrative. See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	01/22/24	01/22/24 10:19	1011
Surrogate(s)	Recovery		Limits						
Dibromofluoromethane	105	%	94-108		1		01/22/24	01/22/24 10:19	1011
4-Bromofluorobenzene	96	%	77-120		1		01/22/24	01/22/24 10:19	1011
Toluene-D8	102	%	95-104		1		01/22/24	01/22/24 10:19	1011

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=7

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	01/11/24	01/11/24 10:51	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	01/11/24	01/11/24 10:51	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	01/11/24	01/11/24 10:51	1011
Chloromethane	ND	ug/L	1.0		1	0.33	01/11/24	01/11/24 10:51	1011
Vinyl Chloride	ND	ug/L	1.0		1	0.34	01/11/24	01/11/24 10:51	1011
Bromomethane	ND	ug/L	1.0		1	0.6	01/11/24	01/11/24 10:51	1011
Chloroethane	ND	ug/L	1.0		1	0.23	01/11/24	01/11/24 10:51	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	01/11/24	01/11/24 10:51	1011
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	01/11/24	01/11/24 10:51	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	01/11/24	01/11/24 10:51	1011
Methylene Chloride	ND	ug/L	1.0		1	0.34	01/11/24	01/11/24 10:51	1011
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	01/11/24	01/11/24 10:51	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	01/11/24	01/11/24 10:51	1011
Chloroform	ND	ug/L	1.0		1	0.21	01/11/24	01/11/24 10:51	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	01/11/24	01/11/24 10:51	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	01/11/24	01/11/24 10:51	1011
Benzene	ND	ug/L	1.0		1	0.19	01/11/24	01/11/24 10:51	1011

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24011021

Sample ID: Effluent VSP-4 **Date/Time Sampled: 01/10/2024 12:00** **PSS Sample ID: 24011021-001**
Matrix: WASTE WATER **Date/Time Received: 01/10/2024 13:00**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=7

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	01/11/24	01/11/24 10:51	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	01/11/24	01/11/24 10:51	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	01/11/24	01/11/24 10:51	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	01/11/24	01/11/24 10:51	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	01/11/24	01/11/24 10:51	1011
Toluene	ND	ug/L	1.0		1	0.52	01/11/24	01/11/24 10:51	1011
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	01/11/24	01/11/24 10:51	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	01/11/24	01/11/24 10:51	1011
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	01/11/24	01/11/24 10:51	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	01/11/24	01/11/24 10:51	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	01/11/24	01/11/24 10:51	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	01/11/24	01/11/24 10:51	1011
Bromoform	ND	ug/L	1.0		1	0.17	01/11/24	01/11/24 10:51	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	01/11/24	01/11/24 10:51	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	01/11/24	01/11/24 10:51	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	01/11/24	01/11/24 10:51	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	01/11/24	01/11/24 10:51	1011
Surrogate(s) Recovery Limits									
<i>Dibromofluoromethane</i>	102	%	94-108		1		01/11/24	01/11/24 10:51	1011
<i>4-Bromofluorobenzene</i>	105	%	77-120		1		01/11/24	01/11/24 10:51	1011
<i>Toluene-D8</i>	99	%	95-104		1		01/11/24	01/11/24 10:51	1011

Total Suspended Solids Analytical Method: SM 2540D -2015

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Total Suspended Solids	ND	mg/L	1.0		1	0.4	01/16/24	01/16/24 15:50	1073

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24011021

Sample ID: Effluent VSP-4 **Date/Time Sampled: 01/10/2024 12:00** **PSS Sample ID: 24011021-001**
Matrix: WASTE WATER **Date/Time Received: 01/10/2024 13:00**

Biochemical Oxygen Demand Analytical Method: SM 5210B -2016

Qualifier(s): See NELAP accreditation section on Case Narrative.

	Result	Units	RL	Flag	MDL	Prepared	Analyzed	Analyst
Biochemical Oxygen Demand, 5 day	ND	mg/L		2		01/11/24	01/11/24 15:58	4009

Case Narrative

Project Name: Kop-Flex

PSS Project No.: 24011021

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

24011021: Analyses associated with analyst code 4009 were performed by Martel Laboratories, Inc., 1025 Cromwell Bridge Road, Towson, MD 21204

Analytical:

1,4- Dioxane

Batch: 209785

Method exceedance: Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) Relative Percent Difference (RPD) exceedances identified; see QC summary.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Analytical Method(s): SM 5210B -2016

EPA 624 .1: 1,4-Dioxane

Lab Chronology

Project Name: Kop-Flex
 PSS Project No.: 24011021

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 200.8	24011021-001	626	Initial	W	98484	209562	01/10/2024 20:55	01/11/2024 03:56
	98484-1-BKS		BKS	W	98484	209562	01/10/2024 20:55	01/11/2024 03:03
	98484-1-BLK		BLK	W	98484	209562	01/10/2024 20:55	01/11/2024 02:58
	24011012-001 S	95	MS	W	98484	209562	01/10/2024 20:55	01/11/2024 03:14
	24011012-001 SD	95	MSD	W	98484	209562	01/10/2024 20:55	01/11/2024 03:19
EPA 624 .1	24011021-001	631	Initial	W	98507	209590	01/11/2024 08:28	01/11/2024 10:51
	98507-1-BKS		BKS	W	98507	209590	01/11/2024 08:28	01/11/2024 08:48
	98507-1-BLK		BLK	W	98507	209590	01/11/2024 08:28	01/11/2024 09:50
	24011021-001 S	632	MS	W	98507	209590	01/11/2024 08:28	01/11/2024 14:25
	24011021-001 SD	632	MSD	W	98507	209590	01/11/2024 08:28	01/11/2024 14:45
EPA 624 .1	24011021-001	627	Initial	W	98606	209785	01/22/2024 08:23	01/22/2024 10:19
	98606-1-BKS		BKS	W	98606	209785	01/22/2024 08:23	01/22/2024 08:45
	98606-1-BLK		BLK	W	98606	209785	01/22/2024 08:23	01/22/2024 09:59
	98606-1-BSD		BSD	W	98606	209785	01/22/2024 08:23	01/22/2024 09:18
	24011021-001 S	628	MS	W	98606	209785	01/22/2024 08:23	01/22/2024 11:41
	24011021-001 SD	628	MSD	W	98606	209785	01/22/2024 08:23	01/22/2024 12:02
SM 2540D -2015	24011021-001	624	Initial	W	209670	209670	01/16/2024 15:50	01/16/2024 15:50
	209670-1-BKS		BKS	W	209670	209670	01/16/2024 15:50	01/16/2024 15:50
	209670-1-BLK		BLK	W	209670	209670	01/16/2024 15:50	01/16/2024 15:50
	24011109-001 D	649	MD	W	209670	209670	01/16/2024 15:50	01/16/2024 15:50
	24011203-001 D	819	MD	W	209670	209670	01/16/2024 15:50	01/16/2024 15:50
SM 5210B -2016	24011021-001	625	Initial	W	209822	209822	01/11/2024 15:58	01/11/2024 15:58

Project Name Kop-Flex

PSS Project No.: 24011021

Analytical Method: SM 2540D -2015

Seq Number: 209670

Matrix: Water

MB Sample ID: 209670-1-BLK

LCS Sample ID: 209670-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Total Suspended Solids	<0.4000	246.9	245.8	100	86-110	mg/L	

Analytical Method: EPA 200.8

Seq Number: 209562

Matrix: Water

Prep Method: E200.8_PREP

MB Sample ID: 98484-1-BLK

LCS Sample ID: 98484-1-BKS

Date Prep: 01/10/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Copper	<0.9800	50.00	53.22	106	85-115	ug/L	
Lead	<0.6600	50.00	50.17	100	85-115	ug/L	
Nickel	<0.9500	50.00	51.79	104	85-115	ug/L	
Zinc	<7.100	100	104.8	105	85-115	ug/L	

Analytical Method: EPA 624 .1

Seq Number: 209785

Matrix: Water

Prep Method: E624PREP

MB Sample ID: 98606-1-BLK

LCS Sample ID: 98606-1-BKS

Date Prep: 01/22/24

LCSD Sample ID: 98606-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<0.02600	30.00	27.37	91	22.18	74	54-145	21	20	ug/L	F

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Dibromofluoromethane	105		105		104		94-108	%
4-Bromofluorobenzene	98		94		97		77-120	%
Toluene-D8	101		101		99		95-104	%

Project Name Kop-Flex

PSS Project No.: 24011021

Analytical Method: EPA 624 .1

Seq Number: 209590

MB Sample ID: 98507-1-BLK

Matrix: Water

LCS Sample ID: 98507-1-BKS

Prep Method: E624PREP

Date Prep: 01/11/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acrolein	<0.001700	50.00	57.95	116	60-140	ug/L	
Acrylonitrile	<0.001500	50.00	52.56	105	60-140	ug/L	
Dichlorodifluoromethane	<0.0002300	50.00	58.43	117	51-128	ug/L	
Chloromethane	<0.0003300	50.00	54.82	110	1-205	ug/L	
Vinyl Chloride	<0.0003400	50.00	56.09	112	5-195	ug/L	
Bromomethane	0.05000	50.00	60.36	121	15-185	ug/L	
Chloroethane	<0.0002300	50.00	57.03	114	40-160	ug/L	
Trichlorofluoromethane	<0.0001700	50.00	56.45	113	50-150	ug/L	
2-Chloroethyl Vinyl Ether	<0.001000	50.00	38.01	76	1-225	ug/L	
1,1-Dichloroethene	<0.0001800	50.00	53.33	107	50-150	ug/L	
Methylene Chloride	<0.0003400	50.00	53.70	107	60-140	ug/L	
trans-1,2-dichloroethene	<0.0002900	50.00	54.54	109	70-130	ug/L	
1,1-Dichloroethane	<0.0001900	50.00	54.38	109	70-130	ug/L	
Chloroform	0.09000	50.00	52.37	105	70-135	ug/L	
1,1,1-Trichloroethane	<0.0001600	50.00	55.21	110	70-130	ug/L	
Carbon Tetrachloride	<0.0002200	50.00	56.04	112	70-130	ug/L	
Benzene	0.03000	50.00	53.52	107	65-135	ug/L	
1,2-Dichloroethane	<0.0001800	50.00	52.49	105	70-130	ug/L	
Trichloroethene	<0.0001900	50.00	53.68	107	65-135	ug/L	
1,2-Dichloropropane	<0.0001700	50.00	54.01	108	35-165	ug/L	
Bromodichloromethane	<0.0001800	50.00	55.85	112	65-135	ug/L	
cis-1,3-Dichloropropene	<0.0001500	50.00	57.93	116	25-175	ug/L	
Toluene	0.04000	50.00	52.97	106	70-130	ug/L	
trans-1,3-dichloropropene	<0.0001500	50.00	50.17	100	50-150	ug/L	
1,1,2-Trichloroethane	<0.0002600	50.00	52.51	105	70-130	ug/L	
Tetrachloroethylene	0.09000	50.00	52.65	105	70-130	ug/L	
Dibromochloromethane	<0.0001800	50.00	57.92	116	70-135	ug/L	
Chlorobenzene	<0.0002300	50.00	52.98	106	65-135	ug/L	
Ethylbenzene	0.05000	50.00	55.54	111	60-140	ug/L	
Bromoform	<0.0001700	50.00	57.94	116	70-130	ug/L	
1,1,2,2-Tetrachloroethane	<0.0002700	50.00	53.51	107	60-140	ug/L	
1,3-Dichlorobenzene	0.1500	50.00	53.42	107	70-130	ug/L	
1,4-Dichlorobenzene	<0.0002600	50.00	51.61	103	65-135	ug/L	
1,2-Dichlorobenzene	0.1100	50.00	53.29	107	65-135	ug/L	
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	
Dibromofluoromethane	101		100		94-108	%	
4-Bromofluorobenzene	108		102		77-120	%	
Toluene-D8	99		99		95-104	%	

Project Name Kop-Flex

PSS Project No.: 24011021

Analytical Method: EPA 624 .1

Seq Number: 209590

Parent Sample ID: 24011021-001

Matrix: Waste Water

MS Sample ID: 24011021-001 S

Prep Method: E624PREP

Date Prep: 01/11/24

MSD Sample ID: 24011021-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acrolein	<1.700	50.00	63.46	127	61.22	122	40-160	4	60	ug/L	
Acrylonitrile	<1.500	50.00	56.61	113	55.62	111	40-160	2	60	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	59.90	120	52.74	105	49-132	13	14	ug/L	
Chloromethane	<0.3300	50.00	57.25	115	54.13	108	1-273	6	60	ug/L	
Vinyl Chloride	<0.3400	50.00	59.91	120	53.79	108	1-251	11	66	ug/L	
Bromomethane	<0.6000	50.00	63.50	127	59.50	119	1-242	7	61	ug/L	
Chloroethane	<0.2300	50.00	61.35	123	54.39	109	14-230	12	78	ug/L	
Trichlorofluoromethane	<0.1700	50.00	60.37	121	53.60	107	17-181	12	84	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	38.66	77	39.46	79	1-305	2	71	ug/L	
1,1-Dichloroethene	<0.1800	50.00	57.24	114	54.30	109	1-234	5	32	ug/L	
Methylene Chloride	<0.3400	50.00	56.67	113	53.77	108	1-221	5	28	ug/L	
trans-1,2-dichloroethene	<0.2900	50.00	58.96	118	54.42	109	54-156	8	45	ug/L	
1,1-Dichloroethane	<0.1900	50.00	58.28	117	55.09	110	59-155	6	40	ug/L	
Chloroform	<0.2100	50.00	55.91	112	53.35	107	51-138	5	54	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	59.35	119	54.10	108	52-162	9	36	ug/L	
Carbon Tetrachloride	<0.2200	50.00	59.59	119	53.46	107	70-140	11	41	ug/L	
Benzene	<0.1900	50.00	57.66	115	53.85	108	37-151	7	61	ug/L	
1,2-Dichloroethane	<0.1800	50.00	55.34	111	54.44	109	49-155	2	49	ug/L	
Trichloroethene	<0.1900	50.00	58.43	117	53.53	107	70-157	9	48	ug/L	
1,2-Dichloropropane	<0.1700	50.00	57.54	115	55.41	111	1-210	4	55	ug/L	
Bromodichloromethane	<0.1800	50.00	58.18	116	56.19	112	35-155	3	56	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	61.14	122	59.07	118	1-227	3	58	ug/L	
Toluene	<0.5200	50.00	57.10	114	53.86	108	47-150	6	41	ug/L	
trans-1,3-dichloropropene	<0.1500	50.00	52.80	106	51.70	103	17-183	2	86	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	55.34	111	54.30	109	52-150	2	45	ug/L	
Tetrachloroethylene	<0.2300	50.00	56.84	114	51.60	103	64-148	10	39	ug/L	
Dibromochloromethane	<0.1800	50.00	59.06	118	56.44	113	53-149	5	50	ug/L	
Chlorobenzene	<0.2300	50.00	56.07	112	52.84	106	37-160	6	53	ug/L	
Ethylbenzene	<0.1500	50.00	59.24	118	54.46	109	37-162	8	63	ug/L	
Bromoform	<0.1700	50.00	57.93	116	56.08	112	45-169	3	42	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	56.82	114	54.18	108	46-157	5	61	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	56.71	113	53.91	108	59-156	5	43	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	54.93	110	52.30	105	18-190	5	57	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	56.52	113	54.25	109	18-190	4	57	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	100		100		94-108	%
4-Bromofluorobenzene	102		101		77-120	%
Toluene-D8	100		101		95-104	%

QC Summary

Project Name Kop-Flex
PSS Project No.: 24011021

Analytical Method: EPA 624 .1

Seq Number: 209785

Parent Sample ID: 24011021-001

Matrix: Waste Water

MS Sample ID: 24011021-001 S

Prep Method: E624PREP

Date Prep: 01/22/24

MSD Sample ID: 24011021-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<1.000	30.00	34.43	115	30.41	101	59-145	12	18	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	103		103		94-108	%
4-Bromofluorobenzene	90		92		77-120	%
Toluene-D8	101		101		95-104	%

Project Name Kop-Flex
PSS Project No.: 24011021

Analytical Method: EPA 200.8

CCV Sample Id: CCV 3 Seq Number: 209562
Analyzed Date: 01/11/24 02:37

Parameter	CCV %Rec	Limits	Flag
Copper	101	85-115	
Lead	101	85-115	
Nickel	100	85-115	
Zinc	101	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 4 Seq Number: 209562
Analyzed Date: 01/11/24 03:45

Parameter	CCV %Rec	Limits	Flag
Copper	100	85-115	
Lead	101	85-115	
Nickel	99	85-115	
Zinc	100	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 5 Seq Number: 209562
Analyzed Date: 01/11/24 04:54

Parameter	CCV %Rec	Limits	Flag
Copper	96	85-115	
Lead	102	85-115	
Nickel	95	85-115	
Zinc	98	85-115	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 209562
Analyzed Date: 01/10/24 22:48

Parameter	ICV %Rec	Limits	Flag
Copper	104	90-110	
Lead	104	90-110	
Nickel	102	90-110	
Zinc	102	90-110	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 209555
Analyzed Date: 01/04/24 12:39

Parameter	ICV %Rec	Limits	Flag
1,4-Dioxane	103	54-145	
Surrogate		Limits	Flag
Dibromofluoromethane	99	94-108	
4-Bromofluorobenzene	98	77-120	
Toluene-D8	100	95-104	

**PHASE
SEPARATION
SCIENCE**

CHAIN OF CUSTODY FORM

All fields must be completed accurately. Shaded sections for lab use only.

www.phaseonline.com ~ info@phaseonline.com

6630 Baltimore National Pike • Suite 103-A • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047

PSS CLIENT: WSP USA		OFFICE LOCATION: Herndon, VA		PSS Work Order #: 2401621				PAGE 1 OF 1							
BILL TO (if different):		PHONE #: 703-709-6500		Matrix Codes: SW=Surface Water DW=Drinking Water GW=Ground Water WW=Waste Water O=Oil S=Soil SOL=Solid A=Air WI=Wipe											
CONTACT: Eric Johnson		EMAIL: eric.johnson@wsp.com		# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes					Preservative Codes				
PROJECT NAME: Kop-Flex		PROJECT #: 31405608.010/0202				Analysis/Method Required					1 - HCL 2 - H ₂ SO ₄ 3 - HNO ₃ 4 - NaOH 5 - E624KIT 6 - ICE 7 - Sodium Thiosulfate 8 - Ascorbic Acid 9 - TerraCore Kit				
SITE LOCATION: Hanover, MD		P.O. #:				1,6 1 6 6 3 VOCs (624.1) 1,4-dioxane (624.1) BOD TSS Total Metals (624.1)									
SAMPLER(S): Shannan Burke		DW CERT #:													
PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	1	2	3	4	5	6	7	8	9
1	Effluent VSP-4	1/10/24	1200	WW	9	G	X	X	X	X	X				
Relinquished By: (1) Sean B. Mee		Date	Time	Received By:		Requested TAT (One TAT per COC) <input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input checked="" type="checkbox"/> Other					Ice Present: Phos TB 20.4°C				
Relinquished By: (2)		Date	Time	Received By:		STATE RESULTS REPORTED TO: <input type="checkbox"/> MD <input type="checkbox"/> DE <input type="checkbox"/> PA <input type="checkbox"/> VA <input type="checkbox"/> WV <input type="checkbox"/> OTHER					Custody Seal: Cooler/Inkjet				
Relinquished By: (3)		Date	Time	Received By:		COMPLIANCE? <input type="checkbox"/> DW <input type="checkbox"/> WW					# Coolers: 1 Temp: 2.9-3.9°C				
Relinquished By: (4)		Date	Time	Received By:		EDD FORMAT TYPE					Shipping Carrier: Chem				
						Special Instructions: Total metals = Cu, Pb, Ni, Zn Standard 10-day TAT									

Sample Receipt Checklist

Project Name: Kop-Flex
PSS Project No.: 24011021

Client Name WSP USA - Herndon
Disposal Date 02/14/2024

Received By Tyler Enwright
Date Received 01/10/2024 01:00:00 PM
Delivered By Client
Tracking No Not Applicable
Logged In By Tyler Enwright

Shipping Container(s)

No. of Coolers 1

Custody Seal(s) Intact? Yes
Seal(s) Signed / Dated? Yes

Ice Present
Temp (deg C) 3.9
Temp Blank Present Yes

Documentation

COC agrees with sample labels? Yes
Chain of Custody Yes

Sampler Name Shannon Burke
MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes
Intact? Yes
Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? Yes

Total No. of Samples Received 1
Total No. of Containers Received 9

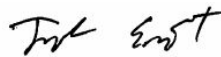
Preservation

Total Metals (pH<2) Yes
Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
Orthophosphorus, filtered within 15 minutes of collection N/A
Cyanides (pH>12) N/A
Sulfide (pH>9) N/A
TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
TOX, TKN, NH3, Total Phos (pH<2) N/A
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) Yes
Do VOA vials have zero headspace? Yes
624 VOC (Rcvd at least one unpreserved VOA vial) Yes
524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Samples Inspected/Checklist Completed By:



Tyler Enwright

Date: 01/10/2024

PM Review and Approval:



Amber Confer

Date: 01/10/2024

Project Name: Kop-Flex
PSS Project No.: 24011022

January 24, 2024

Eric Johnson
WSP USA - Herndon
13530 Dulles Technology Dr, Ste 300
Herndon, VA 20171



Reference: PSS Project No: **24011022**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 31405608.010/0202

Dear Eric Johnson:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24011022**.


All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on February 14, 2024, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,


Dan Prucnal

Laboratory Manager



Sample Summary

Project Name: Kop-Flex
 PSS Project No.: 24011022

The following samples were received under chain of custody by Phase Separation Science (PSS) on 01/10/2024 at 01:00 pm
 Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any
 sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24011022-001	Influent VSP-1	GROUND WATER	01/10/24 12:15
24011022-002	TB-011024	WATER	01/10/24 13:00

Report Information

Project Name: Kop-Flex
PSS Project No.: 24011022

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24011022

Sample ID: Influent VSP-1 **Date/Time Sampled: 01/10/2024 12:15** **PSS Sample ID: 24011022-001**
Matrix: GROUND WATER **Date/Time Received: 01/10/2024 13:00**

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 209785 on Case Narrative. See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	81.0	ug/L	10.0		10	10	01/22/24	01/22/24 11:00	1011
<i>Surrogate(s)</i>	<i>Recovery</i>		<i>Limits</i>						
<i>Dibromofluoromethane</i>	105	%	94-108		10		01/22/24	01/22/24 11:00	1011
<i>4-Bromofluorobenzene</i>	95	%	77-120		10		01/22/24	01/22/24 11:00	1011
<i>Toluene-D8</i>	102	%	95-104		10		01/22/24	01/22/24 11:00	1011

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 209589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	5.0		1	1.5	01/11/24	01/11/24 11:32	1011
Benzene	ND	ug/L	1.0		1	0.19	01/11/24	01/11/24 11:32	1011
Bromochloromethane	ND	ug/L	1.0		1	0.28	01/11/24	01/11/24 11:32	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	01/11/24	01/11/24 11:32	1011
Bromoform	ND	ug/L	1.0		1	0.17	01/11/24	01/11/24 11:32	1011
Bromomethane	ND	ug/L	1.0		1	0.6	01/11/24	01/11/24 11:32	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	01/11/24	01/11/24 11:32	1011
Carbon Disulfide	ND	ug/L	1.0		1	0.35	01/11/24	01/11/24 11:32	1011
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	01/11/24	01/11/24 11:32	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	01/11/24	01/11/24 11:32	1011
Chloroethane	11	ug/L	1.0		1	0.23	01/11/24	01/11/24 11:32	1011
Chloroform	ND	ug/L	1.0		1	0.21	01/11/24	01/11/24 11:32	1011
Chloromethane	ND	ug/L	1.0		1	0.33	01/11/24	01/11/24 11:32	1011
Cyclohexane	ND	ug/L	1.0		1	0.32	01/11/24	01/11/24 11:32	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		1	0.19	01/11/24	01/11/24 11:32	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	01/11/24	01/11/24 11:32	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	0.22	01/11/24	01/11/24 11:32	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	01/11/24	01/11/24 11:32	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	01/11/24	01/11/24 11:32	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	01/11/24	01/11/24 11:32	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	01/11/24	01/11/24 11:32	1011
1,1-Dichloroethane	79	ug/L	1.0		1	0.19	01/11/24	01/11/24 11:32	1011
1,2-Dichloroethane	2.1	ug/L	1.0		1	0.18	01/11/24	01/11/24 11:32	1011
cis-1,2-Dichloroethene	2.7	ug/L	1.0		1	0.19	01/11/24	01/11/24 11:32	1011
1,1-Dichloroethene	290	ug/L	10		10	1.8	01/11/24	01/11/24 15:47	1011

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24011022

Sample ID: Influent VSP-1 **Date/Time Sampled: 01/10/2024 12:15** **PSS Sample ID: 24011022-001**
Matrix: GROUND WATER **Date/Time Received: 01/10/2024 13:00**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 209589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	01/11/24	01/11/24 11:32	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	01/11/24	01/11/24 11:32	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	01/11/24	01/11/24 11:32	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	01/11/24	01/11/24 11:32	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	01/11/24	01/11/24 11:32	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	01/11/24	01/11/24 11:32	1011
Isopropylbenzene	ND	ug/L	1.0		1	0.27	01/11/24	01/11/24 11:32	1011
Methyl Acetate	ND	ug/L	1.0		1	0.5	01/11/24	01/11/24 11:32	1011
Methylcyclohexane	ND	ug/L	1.0		1	0.14	01/11/24	01/11/24 11:32	1011
Methylene chloride	ND	ug/L	1.0		1	0.34	01/11/24	01/11/24 11:32	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	01/11/24	01/11/24 11:32	1011
Methyl-t-Butyl Ether	0.55	ug/L	1.0	J	1	0.17	01/11/24	01/11/24 11:32	1011
Naphthalene	ND	ug/L	1.0		1	0.6	01/11/24	01/11/24 11:32	1011
Styrene	ND	ug/L	1.0		1	0.17	01/11/24	01/11/24 11:32	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	01/11/24	01/11/24 11:32	1011
Tetrachloroethene	ND	ug/L	1.0		1	0.23	01/11/24	01/11/24 11:32	1011
Toluene	ND	ug/L	1.0		1	0.52	01/11/24	01/11/24 11:32	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	0.3	01/11/24	01/11/24 11:32	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	0.26	01/11/24	01/11/24 11:32	1011
1,1,1-Trichloroethane	13	ug/L	1.0		1	0.16	01/11/24	01/11/24 11:32	1011
Trichloroethene	1.3	ug/L	1.0		1	0.19	01/11/24	01/11/24 11:32	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	01/11/24	01/11/24 11:32	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	01/11/24	01/11/24 11:32	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	0.17	01/11/24	01/11/24 11:32	1011
Vinyl chloride	1.2	ug/L	1.0		1	0.34	01/11/24	01/11/24 11:32	1011
m&p-Xylene	ND	ug/L	2.0		1	0.4	01/11/24	01/11/24 11:32	1011
o-Xylene	ND	ug/L	1.0		1	0.18	01/11/24	01/11/24 11:32	1011

Surrogate(s)	Recovery	Limits			
4-Bromofluorobenzene	106 %	88-120	1	01/11/24	01/11/24 11:32 1011
Dibromofluoromethane	101 %	92-107	1	01/11/24	01/11/24 11:32 1011
Toluene-D8	99 %	95-106	1	01/11/24	01/11/24 11:32 1011
4-Bromofluorobenzene	106 %	88-120	10	01/11/24	01/11/24 15:47 1011
Dibromofluoromethane	100 %	92-107	10	01/11/24	01/11/24 15:47 1011
Toluene-D8	100 %	95-106	10	01/11/24	01/11/24 15:47 1011

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24011022

Sample ID: TB-011024 **Date/Time Sampled: 01/10/2024 13:00** **PSS Sample ID: 24011022-002**
Matrix: WATER **Date/Time Received: 01/10/2024 13:00**

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 209785 on Case Narrative. See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	01/22/24	01/22/24 10:40	1011
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	104	%	94-108		1		01/22/24	01/22/24 10:40	1011
<i>4-Bromofluorobenzene</i>	97	%	77-120		1		01/22/24	01/22/24 10:40	1011
<i>Toluene-D8</i>	101	%	95-104		1		01/22/24	01/22/24 10:40	1011

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	01/11/24	01/11/24 11:12	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	01/11/24	01/11/24 11:12	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	01/11/24	01/11/24 11:12	1011
Chloromethane	ND	ug/L	1.0		1	0.33	01/11/24	01/11/24 11:12	1011
Vinyl Chloride	ND	ug/L	1.0		1	0.34	01/11/24	01/11/24 11:12	1011
Bromomethane	ND	ug/L	1.0		1	0.6	01/11/24	01/11/24 11:12	1011
Chloroethane	ND	ug/L	1.0		1	0.23	01/11/24	01/11/24 11:12	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	01/11/24	01/11/24 11:12	1011
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	01/11/24	01/11/24 11:12	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	01/11/24	01/11/24 11:12	1011
Methylene Chloride	ND	ug/L	1.0		1	0.34	01/11/24	01/11/24 11:12	1011
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	01/11/24	01/11/24 11:12	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	01/11/24	01/11/24 11:12	1011
Chloroform	ND	ug/L	1.0		1	0.21	01/11/24	01/11/24 11:12	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	01/11/24	01/11/24 11:12	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	01/11/24	01/11/24 11:12	1011
Benzene	ND	ug/L	1.0		1	0.19	01/11/24	01/11/24 11:12	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	01/11/24	01/11/24 11:12	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	01/11/24	01/11/24 11:12	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	01/11/24	01/11/24 11:12	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	01/11/24	01/11/24 11:12	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	01/11/24	01/11/24 11:12	1011
Toluene	ND	ug/L	1.0		1	0.52	01/11/24	01/11/24 11:12	1011
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	01/11/24	01/11/24 11:12	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	01/11/24	01/11/24 11:12	1011

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24011022

Sample ID: TB-011024 **Date/Time Sampled: 01/10/2024 13:00** **PSS Sample ID: 24011022-002**
Matrix: WATER **Date/Time Received: 01/10/2024 13:00**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	01/11/24	01/11/24 11:12	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	01/11/24	01/11/24 11:12	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	01/11/24	01/11/24 11:12	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	01/11/24	01/11/24 11:12	1011
Bromoform	ND	ug/L	1.0		1	0.17	01/11/24	01/11/24 11:12	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	01/11/24	01/11/24 11:12	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	01/11/24	01/11/24 11:12	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	01/11/24	01/11/24 11:12	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	01/11/24	01/11/24 11:12	1011
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	101 %		94-108		1		01/11/24	01/11/24 11:12	1011
<i>4-Bromofluorobenzene</i>	102 %		77-120		1		01/11/24	01/11/24 11:12	1011
<i>Toluene-D8</i>	100 %		95-104		1		01/11/24	01/11/24 11:12	1011

Case Narrative

Project Name: Kop-Flex

PSS Project No.: 24011022

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

Analytical:

1,4- Dioxane

Batch: 209785

Method exceedance: Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) Relative Percent Difference (RPD) exceedances identified; see QC summary.

Analytical:

TCL Volatile Organic Compounds

Batch: 209589

Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

Laboratory control sample (LCS) exceedances identified; see QC summary. Exceedances meet marginal exceedance criteria.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

EPA 624 .1: 1,4-Dioxane

Lab Chronology

Project Name: Kop-Flex
 PSS Project No.: 24011022

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 624 .1	24011022-002	641	Initial	W	98507	209590	01/11/2024 08:28	01/11/2024 11:12
	98507-1-BKS		BKS	W	98507	209590	01/11/2024 08:28	01/11/2024 08:48
	98507-1-BLK		BLK	W	98507	209590	01/11/2024 08:28	01/11/2024 09:50
	24011021-001 S	632	MS	W	98507	209590	01/11/2024 08:28	01/11/2024 14:25
	24011021-001 SD	632	MSD	W	98507	209590	01/11/2024 08:28	01/11/2024 14:45
EPA 624 .1	24011022-001	635	Initial	W	98606	209785	01/22/2024 08:23	01/22/2024 11:00
	24011022-002	642	Initial	W	98606	209785	01/22/2024 08:23	01/22/2024 10:40
	98606-1-BKS		BKS	W	98606	209785	01/22/2024 08:23	01/22/2024 08:45
	98606-1-BLK		BLK	W	98606	209785	01/22/2024 08:23	01/22/2024 09:59
	98606-1-BSD		BSD	W	98606	209785	01/22/2024 08:23	01/22/2024 09:18
	24011021-001 S	628	MS	W	98606	209785	01/22/2024 08:23	01/22/2024 11:41
	24011021-001 SD	628	MSD	W	98606	209785	01/22/2024 08:23	01/22/2024 12:02
SW-846 8260 D	24011022-001	638	Initial	W	98506	209589	01/11/2024 08:48	01/11/2024 11:32
	98506-1-BKS		BKS	W	98506	209589	01/11/2024 08:48	01/11/2024 08:48
	98506-1-BLK		BLK	W	98506	209589	01/11/2024 08:48	01/11/2024 09:50
	24011011-001 S	599	MS	W	98506	209589	01/11/2024 08:48	01/11/2024 13:44
	24011011-001 SD	599	MSD	W	98506	209589	01/11/2024 08:48	01/11/2024 14:04
	24011022-001	638	Reanalysis	W	98506	209589	01/11/2024 08:48	01/11/2024 15:47

QC Summary

Project Name Kop-Flex
PSS Project No.: 24011022

Analytical Method: EPA 624 .1

Seq Number: 209785

MB Sample ID: 98606-1-BLK

Matrix: Water

LCS Sample ID: 98606-1-BKS

Prep Method: E624PREP

Date Prep: 01/22/24

LCSD Sample ID: 98606-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<0.02600	30.00	27.37	91	22.18	74	54-145	21	20	ug/L	F
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units			
Dibromofluoromethane	105		105		104		94-108	%			
4-Bromofluorobenzene	98		94		97		77-120	%			
Toluene-D8	101		101		99		95-104	%			

Project Name Kop-Flex
PSS Project No.: 24011022

Analytical Method: EPA 624 .1

Seq Number: 209590

Matrix: Water

Prep Method: E624PREP

Date Prep: 01/11/24

MB Sample ID: 98507-1-BLK

LCS Sample ID: 98507-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acrolein	<0.001700	50.00	57.95	116	60-140	ug/L	
Acrylonitrile	<0.001500	50.00	52.56	105	60-140	ug/L	
Dichlorodifluoromethane	<0.0002300	50.00	58.43	117	51-128	ug/L	
Chloromethane	<0.0003300	50.00	54.82	110	1-205	ug/L	
Vinyl Chloride	<0.0003400	50.00	56.09	112	5-195	ug/L	
Bromomethane	0.05000	50.00	60.36	121	15-185	ug/L	
Chloroethane	<0.0002300	50.00	57.03	114	40-160	ug/L	
Trichlorofluoromethane	<0.0001700	50.00	56.45	113	50-150	ug/L	
2-Chloroethyl Vinyl Ether	<0.001000	50.00	38.01	76	1-225	ug/L	
1,1-Dichloroethene	<0.0001800	50.00	53.33	107	50-150	ug/L	
Methylene Chloride	<0.0003400	50.00	53.70	107	60-140	ug/L	
trans-1,2-dichloroethene	<0.0002900	50.00	54.54	109	70-130	ug/L	
1,1-Dichloroethane	<0.0001900	50.00	54.38	109	70-130	ug/L	
Chloroform	0.09000	50.00	52.37	105	70-135	ug/L	
1,1,1-Trichloroethane	<0.0001600	50.00	55.21	110	70-130	ug/L	
Carbon Tetrachloride	<0.0002200	50.00	56.04	112	70-130	ug/L	
Benzene	0.03000	50.00	53.52	107	65-135	ug/L	
1,2-Dichloroethane	<0.0001800	50.00	52.49	105	70-130	ug/L	
Trichloroethene	<0.0001900	50.00	53.68	107	65-135	ug/L	
1,2-Dichloropropane	<0.0001700	50.00	54.01	108	35-165	ug/L	
Bromodichloromethane	<0.0001800	50.00	55.85	112	65-135	ug/L	
cis-1,3-Dichloropropene	<0.0001500	50.00	57.93	116	25-175	ug/L	
Toluene	0.04000	50.00	52.97	106	70-130	ug/L	
trans-1,3-dichloropropene	<0.0001500	50.00	50.17	100	50-150	ug/L	
1,1,2-Trichloroethane	<0.0002600	50.00	52.51	105	70-130	ug/L	
Tetrachloroethylene	0.09000	50.00	52.65	105	70-130	ug/L	
Dibromochloromethane	<0.0001800	50.00	57.92	116	70-135	ug/L	
Chlorobenzene	<0.0002300	50.00	52.98	106	65-135	ug/L	
Ethylbenzene	0.05000	50.00	55.54	111	60-140	ug/L	
Bromoform	<0.0001700	50.00	57.94	116	70-130	ug/L	
1,1,2,2-Tetrachloroethane	<0.0002700	50.00	53.51	107	60-140	ug/L	
1,3-Dichlorobenzene	0.1500	50.00	53.42	107	70-130	ug/L	
1,4-Dichlorobenzene	<0.0002600	50.00	51.61	103	65-135	ug/L	
1,2-Dichlorobenzene	0.1100	50.00	53.29	107	65-135	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units
Dibromofluoromethane	101		100		94-108	%
4-Bromofluorobenzene	108		102		77-120	%
Toluene-D8	99		99		95-104	%

Project Name Kop-Flex
PSS Project No.: 24011022

Analytical Method: SW-846 8260 D

Seq Number: 209589

Matrix: Water

Prep Method: SW5030B

Date Prep: 01/11/24

MB Sample ID: 98506-1-BLK

LCS Sample ID: 98506-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acetone	<1.500	50.00	54.99	110	49-154	ug/L	
Benzene	<0.1900	50.00	53.52	107	76-112	ug/L	
Bromochloromethane	<0.2800	50.00	51.69	103	74-119	ug/L	
Bromodichloromethane	<0.1800	50.00	55.85	112	78-117	ug/L	
Bromoform	<0.1700	50.00	57.94	116	69-123	ug/L	
Bromomethane	<0.6000	50.00	60.36	121	42-118	ug/L	H
2-Butanone (MEK)	<1.300	50.00	52.11	104	55-136	ug/L	
Carbon Disulfide	<0.3500	50.00	59.14	118	80-124	ug/L	
Carbon tetrachloride	<0.2200	50.00	56.04	112	77-119	ug/L	
Chlorobenzene	<0.2300	50.00	52.98	106	76-114	ug/L	
Chloroethane	<0.2300	50.00	57.03	114	61-113	ug/L	H
Chloroform	<0.2100	50.00	52.37	105	75-113	ug/L	
Chloromethane	<0.3300	50.00	54.82	110	41-148	ug/L	
Cyclohexane	<0.3200	50.00	57.47	115	76-135	ug/L	
1,2-Dibromo-3-chloropropane	<0.1900	50.00	56.21	112	52-131	ug/L	
Dibromochloromethane	<0.1800	50.00	57.92	116	79-121	ug/L	
1,2-Dibromoethane	<0.2200	50.00	53.69	107	77-119	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	53.29	107	75-121	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	53.42	107	77-120	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	58.43	117	49-122	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	51.61	103	76-118	ug/L	
1,1-Dichloroethane	<0.1900	50.00	54.38	109	75-118	ug/L	
1,2-Dichloroethane	<0.1800	50.00	52.49	105	72-115	ug/L	
cis-1,2-Dichloroethene	<0.1900	50.00	53.75	108	75-119	ug/L	
1,1-Dichloroethene	<0.1800	50.00	53.33	107	74-119	ug/L	
1,2-Dichloropropane	<0.1700	50.00	54.01	108	76-115	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	57.93	116	83-122	ug/L	
trans-1,3-Dichloropropene	<0.1500	50.00	50.17	100	76-118	ug/L	
trans-1,2-Dichloroethene	<0.2900	50.00	54.54	109	73-121	ug/L	
Ethylbenzene	<0.1500	50.00	55.54	111	78-118	ug/L	
2-Hexanone (MBK)	<0.8300	50.00	51.06	102	55-136	ug/L	
Isopropylbenzene	<0.2700	50.00	57.96	116	76-126	ug/L	
Methyl Acetate	<0.5000	50.00	53.38	107	61-117	ug/L	
Methylcyclohexane	<0.1400	50.00	56.19	112	82-126	ug/L	
Methylene chloride	<0.3400	50.00	53.70	107	75-113	ug/L	
4-Methyl-2-Pentanone (MIBK)	<0.6000	50.00	51.90	104	57-127	ug/L	
Methyl-t-Butyl Ether	<0.1700	50.00	54.66	109	71-114	ug/L	
Naphthalene	<0.6000	50.00	51.68	103	60-122	ug/L	
Styrene	<0.1700	50.00	56.77	114	81-124	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	53.51	107	66-123	ug/L	
Tetrachloroethene	<0.2300	50.00	52.65	105	76-123	ug/L	
Toluene	<0.5200	50.00	52.97	106	77-112	ug/L	
1,2,3-Trichlorobenzene	<0.3000	50.00	54.36	109	73-129	ug/L	
1,2,4-Trichlorobenzene	<0.2600	50.00	55.46	111	73-130	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	55.21	110	79-118	ug/L	
Trichloroethene	<0.1900	50.00	53.68	107	77-112	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	52.51	105	75-115	ug/L	
Trichlorofluoromethane	<0.1700	50.00	56.45	113	74-125	ug/L	
1,1,2-Trichlorotrifluoroethane	<0.1700	50.00	54.03	108	77-123	ug/L	
Vinyl chloride	<0.3400	50.00	56.09	112	53-151	ug/L	
m&p-Xylene	<0.4000	100	109.8	110	79-121	ug/L	

QC Summary

Project Name Kop-Flex
PSS Project No.: 24011022

Analytical Method: SW-846 8260 D

Seq Number: 209589

MB Sample ID: 98506-1-BLK

Matrix: Water

LCS Sample ID: 98506-1-BKS

Prep Method: SW5030B

Date Prep: 01/11/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
o-Xylene	<0.1800	50.00	54.90	110	78-122	ug/L	
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	
4-Bromofluorobenzene	108		102		88-120	%	
Dibromofluoromethane	101		100		92-107	%	
Toluene-D8	99		99		95-106	%	

Project Name Kop-Flex

PSS Project No.: 24011022

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 209555

Analyzed Date: 01/04/24 12:39

Parameter	ICV %Rec	Limits	Flag
1,4-Dioxane	103	54-145	
Surrogate		Limits	Flag
Dibromofluoromethane	99	94-108	
4-Bromofluorobenzene	98	77-120	
Toluene-D8	100	95-104	

Analytical Method: SW-846 8260 D

CCV Sample Id: CCV-01 Seq Number: 209589

Analyzed Date: 01/11/24 08:48

Parameter	CCV %Rec	Limits	Flag
Acetone	110	80-120	
Benzene	107	80-120	
Bromochloromethane	103	80-120	
Bromodichloromethane	112	80-120	
Bromoform	116	80-120	
Bromomethane	121	80-120	X
2-Butanone (MEK)	104	80-120	
Carbon Disulfide	118	80-120	
Carbon tetrachloride	112	80-120	
Chlorobenzene	106	80-120	
Chloroethane	114	80-120	
Chloroform	105	80-120	
Chloromethane	110	80-120	
Cyclohexane	115	80-120	
1,2-Dibromo-3-chloropropane	112	80-120	
Dibromochloromethane	116	80-120	
1,2-Dibromoethane	107	80-120	
1,2-Dichlorobenzene	107	80-120	
1,3-Dichlorobenzene	107	80-120	
Dichlorodifluoromethane	117	80-120	
1,4-Dichlorobenzene	103	80-120	
1,1-Dichloroethane	109	80-120	
1,2-Dichloroethane	105	80-120	
cis-1,2-Dichloroethene	108	80-120	
1,1-Dichloroethene	107	80-120	
1,2-Dichloropropane	108	80-120	
cis-1,3-Dichloropropene	116	80-120	
trans-1,3-Dichloropropene	100	80-120	
trans-1,2-Dichloroethene	109	80-120	
Ethylbenzene	111	80-120	
2-Hexanone (MBK)	102	80-120	
Isopropylbenzene	116	80-120	
Methyl Acetate	107	80-120	
Methylcyclohexane	112	80-120	
Methylene chloride	107	80-120	
4-Methyl-2-Pentanone (MIBK)	104	80-120	
Methyl-t-Butyl Ether	109	80-120	

Project Name Kop-Flex
PSS Project No.: 24011022

Analytical Method: SW-846 8260 D

CCV Sample Id: CCV-01 Seq Number: 209589
Analyzed Date: 01/11/24 08:48

Parameter	CCV %Rec	Limits	Flag
Naphthalene	103	80-120	
Styrene	114	80-120	
1,1,2,2-Tetrachloroethane	107	80-120	
Tetrachloroethene	105	80-120	
Toluene	106	80-120	
1,2,3-Trichlorobenzene	109	80-120	
1,2,4-Trichlorobenzene	111	80-120	
1,1,1-Trichloroethane	110	80-120	
Trichloroethene	107	80-120	
1,1,2-Trichloroethane	105	80-120	
Trichlorofluoromethane	113	80-120	
1,1,2-Trichlorotrifluoroethane	108	80-120	
Vinyl chloride	112	80-120	
m&p-Xylene	110	80-120	
o-Xylene	110	80-120	

Surrogate		Limits	Flag
4-Bromofluorobenzene	102	80-120	
Dibromofluoromethane	100	80-120	
Toluene-D8	99	80-120	

Analytical Method: SW-846 8260 D

Parent Sample Id: ICV-01 Seq Number: 209433
Analyzed Date: 01/04/24 12:39

Parameter	ICV %Rec	Limits	Flag
Acetone	97	70-130	
Benzene	88	70-130	
Bromochloromethane	88	70-130	
Bromodichloromethane	89	70-130	
Bromoform	90	70-130	
Bromomethane	97	70-130	
2-Butanone (MEK)	97	70-130	
1,1-Dichloroethene	88	70-130	
Carbon Disulfide	95	70-130	
Carbon tetrachloride	86	70-130	
Chlorobenzene	86	70-130	
Chloroethane	88	70-130	
Chloroform	85	70-130	
Chloromethane	89	70-130	
Cyclohexane	86	70-130	
1,2-Dibromo-3-chloropropane	87	70-130	
Dibromochloromethane	90	70-130	
1,2-Dibromoethane	88	70-130	
1,2-Dichlorobenzene	86	70-130	
1,3-Dichlorobenzene	85	70-130	
Dichlorodifluoromethane	85	70-130	
1,4-Dichlorobenzene	82	70-130	
1,1-Dichloroethane	88	70-130	

Project Name Kop-Flex
PSS Project No.: 24011022

Analytical Method: SW-846 8260 D

Parent Sample Id: ICV-01 Seq Number: 209433
Analyzed Date: 01/04/24 12:39

Parameter	ICV %Rec	Limits	Flag
1,2-Dichloroethane	87	70-130	
cis-1,2-Dichloroethene	88	70-130	
1,2-Dichloropropane	88	70-130	
cis-1,3-Dichloropropene	94	70-130	
trans-1,3-Dichloropropene	81	70-130	
trans-1,2-Dichloroethene	88	70-130	
Ethylbenzene	88	70-130	
2-Hexanone (MBK)	97	70-130	
Isopropylbenzene	87	70-130	
Methyl Acetate	100	70-130	
Methylcyclohexane	84	70-130	
Methylene chloride	90	70-130	
4-Methyl-2-Pentanone (MIBK)	95	70-130	
Methyl-t-Butyl Ether	98	70-130	
Naphthalene	89	70-130	
Styrene	93	70-130	
1,1,2,2-Tetrachloroethane	85	70-130	
Tetrachloroethene	85	70-130	
Toluene	87	70-130	
1,2,3-Trichlorobenzene	93	70-130	
1,2,4-Trichlorobenzene	93	70-130	
1,1,1-Trichloroethane	86	70-130	
Trichloroethene	86	70-130	
1,1,2-Trichloroethane	87	70-130	
Trichlorofluoromethane	83	70-130	
1,1,2-Trichlorotrifluoroethane	84	70-130	
Vinyl chloride	83	70-130	
m&p-Xylene	88	70-130	
o-Xylene	89	70-130	

Surrogate		Limits	Flag
4-Bromofluorobenzene	98	70-130	
Dibromofluoromethane	99	70-130	
Toluene-D8	100	70-130	

**PHASE
SEPARATION
SCIENCE**

CHAIN OF CUSTODY FORM

All fields must be completed accurately. Shaded sections for lab use only.

www.phaseonline.com ~ info@phaseonline.com

6630 Baltimore National Pike • Suite 103-A • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047

PSS CLIENT: WSP USA		OFFICE LOCATION: Herndon, VA		PSS Work Order #: 24011022			PAGE 1 OF 1	
BILL TO (if different):		PHONE #: 703-709-6500		Matrix Codes: SW=Surface Water DW=Drinking Water GW=Ground Water WW=Waste Water O=Oil S=Soil SOL=Solid A=Air WI=Wipe				Preservative Codes 1 - HCL 2 - H ₂ SO ₄ 3 - HNO ₃ 4 - NaOH 5 - E624KIT 6 - ICE 7 - Sodium Thiosulfate 8 - Ascorbic Acid 9 - TerraCore Kit
CONTACT: Eric Johnson		EMAIL: eric.johnson@wsp.com		# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes		
PROJECT NAME: Kop-flex		PROJECT #: 31405608.0101 02-02				Analysis/ Method Required		
SITE LOCATION: Hanover, MD		P.O. #:				<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">14 Digimine (624.1)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">VOCs (8260)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">VOCs (624.1)</div> </div>		
SAMPLER(S): Shannan Burke		DW CERT #:						
PSS ID		SAMPLE IDENTIFICATION						DATE SAMPLED
MATRIX Use Codes		# OF CONTAINERS		SAMPLE TYPE:		Preservative Codes		
1	Influent VSP-1	1/10/24	1215	GW	6	G	X	X
2	TB-011024	---	---	TB	4	-	X	X
Relinquished By: (1)		Date	Time	Received By:		Requested TAT (One TAT per COC)		Ice Present:
Shannan Burke		1/10/24	1300	[Signature]		<input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input checked="" type="checkbox"/> Other		Yes TB=0.40c
Relinquished By: (2)		Date	Time	Received By:		STATE RESULTS REPORTED TO:		Custody Seal:
						<input type="checkbox"/> MD <input type="checkbox"/> DE <input type="checkbox"/> PA <input type="checkbox"/> VA <input type="checkbox"/> WV <input type="checkbox"/> OTHER		Cooler/Label
Relinquished By: (3)		Date	Time	Received By:		COMPLIANCE?		# Coolers:
						<input type="checkbox"/> DW <input type="checkbox"/> WW		1 Temp: 2.1-5.90c
Relinquished By: (4)		Date	Time	Received By:		EDD FORMAT TYPE		Shipping Carrier:
								Client
						Special Instructions:		
						Standard 10-day TAT		

Sample Receipt Checklist

Project Name: Kop-Flex
PSS Project No.: 24011022

Client Name WSP USA - Herndon
Disposal Date 02/14/2024

Received By Tyler Enwright
Date Received 01/10/2024 01:00:00 PM
Delivered By Client
Tracking No Not Applicable
Logged In By Tyler Enwright

Shipping Container(s)

No. of Coolers 1

Custody Seal(s) Intact? Yes
Seal(s) Signed / Dated? Yes

Ice Present
Temp (deg C) 5.9
Temp Blank Present Yes

Documentation

COC agrees with sample labels? Yes
Chain of Custody Yes

Sampler Name Shannon Burke
MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes
Intact? Yes
Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? Yes

Total No. of Samples Received 2
Total No. of Containers Received 10

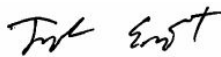
Preservation

Total Metals (pH<2) N/A
Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
Orthophosphorus, filtered within 15 minutes of collection N/A
Cyanides (pH>12) N/A
Sulfide (pH>9) N/A
TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
TOX, TKN, NH3, Total Phos (pH<2) N/A
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) Yes
Do VOA vials have zero headspace? Yes
624 VOC (Rcvd at least one unpreserved VOA vial) N/A
524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Samples Inspected/Checklist Completed By:



Tyler Enwright

Date: 01/10/2024

PM Review and Approval:



Amber Confer

Date: 01/10/2024

Project Name: Kop-Flex
PSS Project No.: 24020711

February 21, 2024

Eric Johnson
WSP USA - Herndon
13530 Dulles Technology Dr, Ste 300
Herndon, VA 20171



Reference: PSS Project No: **24020711**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 31403608.010/02.02

Dear Eric Johnson:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24020711**.


All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on March 13, 2024, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,



Dan Prucnal

Laboratory Manager

Sample Summary

Project Name: Kop-Flex
PSS Project No.: 24020711

The following samples were received under chain of custody by Phase Separation Science (PSS) on 02/07/2024 at 11:37 am. Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24020711-001	Effluent VSP-4	WASTE WATER	02/07/24 09:45
24020711-002	TB-020724	WATER	02/07/24 00:00

Project Name: Kop-Flex
PSS Project No.: 24020711

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24020711

Sample ID: Effluent VSP-4 **Date/Time Sampled: 02/07/2024 09:45** **PSS Sample ID: 24020711-001**
Matrix: WASTE WATER **Date/Time Received: 02/07/2024 11:37**

Total Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Copper	5.1	ug/L	1.0		1	0.98	02/12/24	02/14/24 19:00	1064
Lead	ND	ug/L	1.0		1	0.66	02/12/24	02/14/24 19:00	1064
Nickel	21.1	ug/L	1.00		1	0.95	02/12/24	02/14/24 19:00	1064
Zinc	29.2	ug/L	20.0		1	7.1	02/12/24	02/14/24 19:00	1064

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	1.4	ug/L	1.0		1	1	02/21/24	02/21/24 13:09	1011
Surrogate(s)	Recovery		Limits						
Dibromofluoromethane	101	%	94-108		1		02/21/24	02/21/24 13:09	1011
4-Bromofluorobenzene	104	%	77-120		1		02/21/24	02/21/24 13:09	1011
Toluene-D8	98	%	95-104		1		02/21/24	02/21/24 13:09	1011

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=7

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	02/08/24	02/08/24 09:35	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	02/08/24	02/08/24 09:35	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	02/08/24	02/08/24 09:35	1011
Chloromethane	ND	ug/L	1.0		1	0.33	02/08/24	02/08/24 09:35	1011
Vinyl Chloride	ND	ug/L	1.0		1	0.34	02/08/24	02/08/24 09:35	1011
Bromomethane	ND	ug/L	1.0		1	0.6	02/08/24	02/08/24 09:35	1011
Chloroethane	ND	ug/L	1.0		1	0.23	02/08/24	02/08/24 09:35	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	02/08/24	02/08/24 09:35	1011
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	02/08/24	02/08/24 09:35	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	02/08/24	02/08/24 09:35	1011
Methylene Chloride	ND	ug/L	1.0		1	0.34	02/08/24	02/08/24 09:35	1011
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	02/08/24	02/08/24 09:35	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	02/08/24	02/08/24 09:35	1011
Chloroform	ND	ug/L	1.0		1	0.21	02/08/24	02/08/24 09:35	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	02/08/24	02/08/24 09:35	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	02/08/24	02/08/24 09:35	1011
Benzene	ND	ug/L	1.0		1	0.19	02/08/24	02/08/24 09:35	1011

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24020711

Sample ID: Effluent VSP-4 **Date/Time Sampled: 02/07/2024 09:45** **PSS Sample ID: 24020711-001**
Matrix: WASTE WATER **Date/Time Received: 02/07/2024 11:37**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=7

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	02/08/24	02/08/24 09:35	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	02/08/24	02/08/24 09:35	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	02/08/24	02/08/24 09:35	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	02/08/24	02/08/24 09:35	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	02/08/24	02/08/24 09:35	1011
Toluene	ND	ug/L	1.0		1	0.52	02/08/24	02/08/24 09:35	1011
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	02/08/24	02/08/24 09:35	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	02/08/24	02/08/24 09:35	1011
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	02/08/24	02/08/24 09:35	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	02/08/24	02/08/24 09:35	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	02/08/24	02/08/24 09:35	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	02/08/24	02/08/24 09:35	1011
Bromoform	ND	ug/L	1.0		1	0.17	02/08/24	02/08/24 09:35	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	02/08/24	02/08/24 09:35	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	02/08/24	02/08/24 09:35	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	02/08/24	02/08/24 09:35	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	02/08/24	02/08/24 09:35	1011
Surrogate(s) Recovery Limits									
<i>Dibromofluoromethane</i>	105	%	94-108		1		02/08/24	02/08/24 09:35	1011
<i>4-Bromofluorobenzene</i>	99	%	77-120		1		02/08/24	02/08/24 09:35	1011
<i>Toluene-D8</i>	101	%	95-104		1		02/08/24	02/08/24 09:35	1011

Total Suspended Solids Analytical Method: SM 2540D -2015

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Total Suspended Solids	1.1	mg/L	1.0		1	0.41	02/07/24	02/07/24 18:25	1073

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24020711

Sample ID: TB-020724 **Date/Time Sampled: 02/07/2024 00:00** **PSS Sample ID: 24020711-002**
Matrix: WATER **Date/Time Received: 02/07/2024 11:37**

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	02/21/24	02/21/24 13:30	1011
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	100	%	94-108		1		02/21/24	02/21/24 13:30	1011
<i>4-Bromofluorobenzene</i>	102	%	77-120		1		02/21/24	02/21/24 13:30	1011
<i>Toluene-D8</i>	99	%	95-104		1		02/21/24	02/21/24 13:30	1011

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	02/08/24	02/08/24 09:55	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	02/08/24	02/08/24 09:55	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	02/08/24	02/08/24 09:55	1011
Chloromethane	ND	ug/L	1.0		1	0.33	02/08/24	02/08/24 09:55	1011
Vinyl Chloride	ND	ug/L	1.0		1	0.34	02/08/24	02/08/24 09:55	1011
Bromomethane	ND	ug/L	1.0		1	0.6	02/08/24	02/08/24 09:55	1011
Chloroethane	ND	ug/L	1.0		1	0.23	02/08/24	02/08/24 09:55	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	02/08/24	02/08/24 09:55	1011
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	02/08/24	02/08/24 09:55	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	02/08/24	02/08/24 09:55	1011
Methylene Chloride	ND	ug/L	1.0		1	0.34	02/08/24	02/08/24 09:55	1011
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	02/08/24	02/08/24 09:55	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	02/08/24	02/08/24 09:55	1011
Chloroform	ND	ug/L	1.0		1	0.21	02/08/24	02/08/24 09:55	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	02/08/24	02/08/24 09:55	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	02/08/24	02/08/24 09:55	1011
Benzene	ND	ug/L	1.0		1	0.19	02/08/24	02/08/24 09:55	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	02/08/24	02/08/24 09:55	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	02/08/24	02/08/24 09:55	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	02/08/24	02/08/24 09:55	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	02/08/24	02/08/24 09:55	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	02/08/24	02/08/24 09:55	1011
Toluene	ND	ug/L	1.0		1	0.52	02/08/24	02/08/24 09:55	1011
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	02/08/24	02/08/24 09:55	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	02/08/24	02/08/24 09:55	1011

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24020711

Sample ID: TB-020724 **Date/Time Sampled: 02/07/2024 00:00** **PSS Sample ID: 24020711-002**
Matrix: WATER **Date/Time Received: 02/07/2024 11:37**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	02/08/24	02/08/24 09:55	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	02/08/24	02/08/24 09:55	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	02/08/24	02/08/24 09:55	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	02/08/24	02/08/24 09:55	1011
Bromoform	ND	ug/L	1.0		1	0.17	02/08/24	02/08/24 09:55	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	02/08/24	02/08/24 09:55	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	02/08/24	02/08/24 09:55	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	02/08/24	02/08/24 09:55	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	02/08/24	02/08/24 09:55	1011
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	105 %		94-108		1		02/08/24	02/08/24 09:55	1011
<i>4-Bromofluorobenzene</i>	98 %		77-120		1		02/08/24	02/08/24 09:55	1011
<i>Toluene-D8</i>	102 %		95-104		1		02/08/24	02/08/24 09:55	1011

Case Narrative

Project Name: Kop-Flex

PSS Project No.: 24020711

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

EPA 624 .1: 1,4-Dioxane

Lab Chronology

Project Name: Kop-Flex
 PSS Project No.: 24020711

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 200.8	24020711-001	871	Initial	W	98872	210394	02/12/2024 16:40	02/14/2024 19:00
	98872-1-BKS		BKS	W	98872	210394	02/12/2024 16:40	02/14/2024 18:55
	98872-1-BLK		BLK	W	98872	210394	02/12/2024 16:40	02/14/2024 18:50
	24021218-002 S	300	MS	W	98872	210394	02/12/2024 16:40	02/14/2024 19:55
EPA 624 .1	24020711-001	873	Initial	W	98830	210246	02/08/2024 07:52	02/08/2024 09:35
	24020711-002	878	Initial	W	98830	210246	02/08/2024 07:52	02/08/2024 09:55
	98830-1-BKS		BKS	W	98830	210246	02/08/2024 07:52	02/08/2024 08:13
	98830-1-BLK		BLK	W	98830	210246	02/08/2024 07:52	02/08/2024 09:14
	24020711-001 S	874	MS	W	98830	210246	02/08/2024 07:52	02/08/2024 10:16
	24020711-001 SD	874	MSD	W	98830	210246	02/08/2024 07:52	02/08/2024 10:36
EPA 624 .1	24020711-001	875	Initial	W	99007	210553	02/21/2024 08:43	02/21/2024 13:09
	24020711-002	879	Initial	W	99007	210553	02/21/2024 08:43	02/21/2024 13:30
	99007-1-BKS		BKS	W	99007	210553	02/21/2024 08:43	02/21/2024 11:47
	99007-1-BLK		BLK	W	99007	210553	02/21/2024 08:43	02/21/2024 12:49
	99007-1-BSD		BSD	W	99007	210553	02/21/2024 08:43	02/21/2024 12:08
	24020711-001 S	876	MS	W	99007	210553	02/21/2024 08:43	02/21/2024 13:50
	24020711-001 SD	876	MSD	W	99007	210553	02/21/2024 08:43	02/21/2024 14:10
SM 2540D -2015	24020711-001	870	Initial	W	210214	210214	02/07/2024 18:25	02/07/2024 18:25
	210214-1-BKS		BKS	W	210214	210214	02/07/2024 18:25	02/07/2024 18:25
	210214-1-BLK		BLK	W	210214	210214	02/07/2024 18:25	02/07/2024 18:25
	24020115-001 D	421	MD	W	210214	210214	02/07/2024 18:25	02/07/2024 18:25
	24020512-003 D	470	MD	W	210214	210214	02/07/2024 18:25	02/07/2024 18:25

Project Name Kop-Flex
PSS Project No.: 24020711

Analytical Method: SM 2540D -2015

Seq Number: 210214 Matrix: Water
MB Sample ID: 210214-1-BLK LCS Sample ID: 210214-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Total Suspended Solids	<0.4000	101.9	100.9	99	86-110	mg/L	

Analytical Method: EPA 200.8

Seq Number: 210394 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 98872-1-BLK LCS Sample ID: 98872-1-BKS Date Prep: 02/12/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Copper	<0.9800	50.00	46.99	94	85-115	ug/L	
Lead	<0.6600	50.00	46.38	93	85-115	ug/L	
Nickel	<0.9500	50.00	49.71	99	85-115	ug/L	
Zinc	<7.100	100	93.44	93	85-115	ug/L	

Analytical Method: EPA 624 .1

Seq Number: 210553 Matrix: Water Prep Method: E624PREP
MB Sample ID: 99007-1-BLK LCS Sample ID: 99007-1-BKS Date Prep: 02/21/24
LCSD Sample ID: 99007-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<0.02600	30.00	31.38	105	28.52	95	54-145	10	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Dibromofluoromethane	101		99		100		94-108	%
4-Bromofluorobenzene	99		99		98		77-120	%
Toluene-D8	101		99		100		95-104	%

Project Name Kop-Flex

PSS Project No.: 24020711

Analytical Method: EPA 624 .1

Seq Number: 210246

MB Sample ID: 98830-1-BLK

Matrix: Water

LCS Sample ID: 98830-1-BKS

Prep Method: E624PREP

Date Prep: 02/08/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acrolein	<0.001700	50.00	58.23	116	60-140	ug/L	
Acrylonitrile	<0.001500	50.00	42.05	84	60-140	ug/L	
Dichlorodifluoromethane	<0.0002300	50.00	57.10	114	51-128	ug/L	
Chloromethane	<0.0003300	50.00	47.92	96	1-205	ug/L	
Vinyl Chloride	<0.0003400	50.00	53.53	107	5-195	ug/L	
Bromomethane	0.02000	50.00	56.79	114	15-185	ug/L	
Chloroethane	<0.0002300	50.00	53.59	107	40-160	ug/L	
Trichlorofluoromethane	<0.0001700	50.00	56.06	112	50-150	ug/L	
2-Chloroethyl Vinyl Ether	<0.001000	50.00	8.460	17	1-225	ug/L	
1,1-Dichloroethene	<0.0001800	50.00	51.52	103	50-150	ug/L	
Methylene Chloride	<0.0003400	50.00	50.15	100	60-140	ug/L	
trans-1,2-dichloroethene	<0.0002900	50.00	50.89	102	70-130	ug/L	
1,1-Dichloroethane	<0.0001900	50.00	45.43	91	70-130	ug/L	
Chloroform	0.1500	50.00	47.37	95	70-135	ug/L	
1,1,1-Trichloroethane	<0.0001600	50.00	50.58	101	70-130	ug/L	
Carbon Tetrachloride	<0.0002200	50.00	52.26	105	70-130	ug/L	
Benzene	<0.0001900	50.00	47.88	96	65-135	ug/L	
1,2-Dichloroethane	<0.0001800	50.00	45.61	91	70-130	ug/L	
Trichloroethene	<0.0001900	50.00	50.39	101	65-135	ug/L	
1,2-Dichloropropane	<0.0001700	50.00	44.85	90	35-165	ug/L	
Bromodichloromethane	<0.0001800	50.00	50.42	101	65-135	ug/L	
cis-1,3-Dichloropropene	<0.0001500	50.00	50.44	101	25-175	ug/L	
Toluene	0.04000	50.00	49.88	100	70-130	ug/L	
trans-1,3-dichloropropene	<0.0001500	50.00	43.81	88	50-150	ug/L	
1,1,2-Trichloroethane	<0.0002600	50.00	47.63	95	70-130	ug/L	
Tetrachloroethylene	0.08000	50.00	55.32	111	70-130	ug/L	
Dibromochloromethane	<0.0001800	50.00	54.53	109	70-135	ug/L	
Chlorobenzene	<0.0002300	50.00	49.34	99	65-135	ug/L	
Ethylbenzene	0.05000	50.00	49.32	99	60-140	ug/L	
Bromoform	<0.0001700	50.00	58.09	116	70-130	ug/L	
1,1,2,2-Tetrachloroethane	<0.0002700	50.00	44.40	89	60-140	ug/L	
1,3-Dichlorobenzene	0.1900	50.00	49.88	100	70-130	ug/L	
1,4-Dichlorobenzene	<0.0002600	50.00	47.98	96	65-135	ug/L	
1,2-Dichlorobenzene	0.1200	50.00	50.31	101	65-135	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units
Dibromofluoromethane	104		103		94-108	%
4-Bromofluorobenzene	101		92		77-120	%
Toluene-D8	101		101		95-104	%

Project Name Kop-Flex

PSS Project No.: 24020711

Analytical Method: EPA 624 .1

Seq Number: 210246

Parent Sample ID: 24020711-001

Matrix: Waste Water

MS Sample ID: 24020711-001 S

Prep Method: E624PREP

Date Prep: 02/08/24

MSD Sample ID: 24020711-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acrolein	<1.700	50.00	60.37	121	63.01	126	40-160	4	60	ug/L	
Acrylonitrile	<1.500	50.00	43.27	87	44.55	89	40-160	3	60	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	59.04	118	57.33	115	49-132	3	14	ug/L	
Chloromethane	<0.3300	50.00	49.03	98	47.31	95	1-273	4	60	ug/L	
Vinyl Chloride	<0.3400	50.00	57.92	116	59.59	119	1-251	3	66	ug/L	
Bromomethane	<0.6000	50.00	59.45	119	60.11	120	1-242	1	61	ug/L	
Chloroethane	<0.2300	50.00	55.21	110	54.63	109	14-230	1	78	ug/L	
Trichlorofluoromethane	<0.1700	50.00	59.77	120	59.29	119	17-181	1	84	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	9.350	19	9.330	19	1-305	0	71	ug/L	
1,1-Dichloroethene	<0.1800	50.00	55.86	112	55.95	112	1-234	0	32	ug/L	
Methylene Chloride	<0.3400	50.00	51.02	102	51.12	102	1-221	0	28	ug/L	
trans-1,2-dichloroethene	<0.2900	50.00	53.79	108	53.76	108	54-156	0	45	ug/L	
1,1-Dichloroethane	<0.1900	50.00	48.12	96	48.75	98	59-155	1	40	ug/L	
Chloroform	<0.2100	50.00	49.80	100	49.98	100	51-138	0	54	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	53.16	106	52.87	106	52-162	1	36	ug/L	
Carbon Tetrachloride	<0.2200	50.00	54.69	109	53.62	107	70-140	2	41	ug/L	
Benzene	<0.1900	50.00	50.74	101	50.04	100	37-151	1	61	ug/L	
1,2-Dichloroethane	<0.1800	50.00	47.69	95	48.05	96	49-155	1	49	ug/L	
Trichloroethene	<0.1900	50.00	52.95	106	52.50	105	70-157	1	48	ug/L	
1,2-Dichloropropane	<0.1700	50.00	47.47	95	47.67	95	1-210	0	55	ug/L	
Bromodichloromethane	<0.1800	50.00	52.02	104	52.13	104	35-155	0	56	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	51.37	103	52.63	105	1-227	2	58	ug/L	
Toluene	<0.5200	50.00	52.72	105	52.17	104	47-150	1	41	ug/L	
trans-1,3-dichloropropene	<0.1500	50.00	44.41	89	45.14	90	17-183	2	86	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	49.78	100	50.63	101	52-150	2	45	ug/L	
Tetrachloroethylene	<0.2300	50.00	57.84	116	57.56	115	64-148	0	39	ug/L	
Dibromochloromethane	<0.1800	50.00	54.54	109	54.75	110	53-149	0	50	ug/L	
Chlorobenzene	<0.2300	50.00	51.57	103	50.88	102	37-160	1	53	ug/L	
Ethylbenzene	<0.1500	50.00	51.97	104	50.99	102	37-162	2	63	ug/L	
Bromoform	<0.1700	50.00	57.16	114	57.44	115	45-169	0	42	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	46.40	93	46.50	93	46-157	0	61	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	52.31	105	50.94	102	59-156	3	43	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	50.61	101	49.38	99	18-190	2	57	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	52.17	104	51.39	103	18-190	2	57	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	103		104		94-108	%
4-Bromofluorobenzene	93		93		77-120	%
Toluene-D8	101		101		95-104	%

QC Summary

Project Name Kop-Flex
PSS Project No.: 24020711

Analytical Method: EPA 624 .1

Seq Number: 210553

Parent Sample ID: 24020711-001

Matrix: Waste Water

MS Sample ID: 24020711-001 S

Prep Method: E624PREP

Date Prep: 02/21/24

MSD Sample ID: 24020711-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	1.370	30.00	32.46	104	31.62	101	59-145	3	18	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	99		99		94-108	%
4-Bromofluorobenzene	100		98		77-120	%
Toluene-D8	100		100		95-104	%

Project Name Kop-Flex

PSS Project No.: 24020711

Analytical Method: EPA 200.8

CCV Sample Id: CCV 1 Seq Number: 210394

Analyzed Date: 02/14/24 19:45

Parameter	CCV %Rec	Limits	Flag
Copper	100	85-115	
Lead	98	85-115	
Nickel	101	85-115	
Zinc	100	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 2 Seq Number: 210394

Analyzed Date: 02/14/24 20:45

Parameter	CCV %Rec	Limits	Flag
Copper	98	85-115	
Lead	98	85-115	
Nickel	101	85-115	
Zinc	99	85-115	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 210394

Analyzed Date: 02/14/24 18:25

Parameter	ICV %Rec	Limits	Flag
Copper	101	90-110	
Lead	99	90-110	
Nickel	105	90-110	
Zinc	101	90-110	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 209555

Analyzed Date: 01/04/24 12:39

Parameter	ICV %Rec	Limits	Flag
Acrolein	97	60-140	
Acrylonitrile	95	60-140	
Dichlorodifluoromethane	85	51-128	
Chloromethane	89	1-205	
Vinyl Chloride	83	5-195	
Bromomethane	97	15-185	
Chloroethane	88	40-160	
Trichlorofluoromethane	83	50-150	
2-Chloroethyl Vinyl Ether	80	1-225	
1,1-Dichloroethene	88	50-150	
Methylene Chloride	90	60-140	
trans-1,2-dichloroethene	88	70-130	
1,1-Dichloroethane	88	70-130	
Chloroform	85	70-135	
1,1,1-Trichloroethane	86	70-130	
Carbon Tetrachloride	86	70-130	
Benzene	88	65-135	
1,2-Dichloroethane	87	70-130	
Trichloroethene	86	65-135	
1,2-Dichloropropane	88	35-165	
Bromodichloromethane	89	65-135	
cis-1,3-Dichloropropene	94	25-175	
Toluene	87	70-130	
trans-1,3-dichloropropene	81	50-150	
1,1,2-Trichloroethane	87	70-130	
Tetrachloroethylene	85	70-130	
Dibromochloromethane	90	70-135	
Chlorobenzene	86	65-135	
Ethylbenzene	88	60-140	
Bromoform	90	70-130	
1,1,2,2-Tetrachloroethane	85	60-140	
1,3-Dichlorobenzene	85	70-130	
1,4-Dichlorobenzene	82	65-135	
1,2-Dichlorobenzene	86	65-135	

Surrogate	Limits	Flag
Dibromofluoromethane	99	94-108
4-Bromofluorobenzene	98	77-120
Toluene-D8	100	95-104

Project Name Kop-Flex
PSS Project No.: 24020711

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 210552
Analyzed Date: 02/21/24 11:47

Parameter	ICV %Rec	Limits	Flag
1,4-Dioxane	3	54-145	X
Surrogate		Limits	Flag
Dibromofluoromethane	99	94-108	
4-Bromofluorobenzene	99	77-120	
Toluene-D8	99	95-104	

Sample Receipt Checklist

Project Name: Kop-Flex
PSS Project No.: 24020711

Client Name WSP USA - Herndon
Disposal Date 03/13/2024

Received By Tyler Enwright
Date Received 02/07/2024 11:37 AM
Delivered By Trans Time Express
Tracking # Not Applicable
Logged In By Tyler Enwright

Shipping Container(s)

of Coolers 1

Custody Seal(s) Intact? Yes
Seal(s) Signed / Dated? Yes

Ice Present
Temp (°C) 3.5
Temp Blank Present Yes

Documentation

COC agrees with sample labels? Yes
Chain of Custody Yes

Sampler Name Shannon Burke
MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes
Intact? Yes
Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? Yes

Total # of Samples Received 2
Total # of Containers Received 12

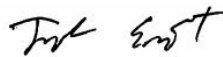
Preservation

Total Metals (pH<2) Yes
Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
Orthophosphorus, filtered within 15 minutes of collection N/A
Cyanides (pH>12) N/A
Sulfide (pH>9) N/A
TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
TOX, TKN, NH3, Total Phos (pH<2) N/A
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) Yes
Do VOA vials have zero headspace? Yes
624 VOC (Rcvd at least one unpreserved VOA vial) Yes
524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, the sample ID, preservative added, documentation of any client notification, and subsequent client instructions are noted below. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C, and <=4°C for EPA 524. Samples that are received by the lab on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that thermal preservation has begun.

Samples Inspected/Checklist Completed By:



Tyler Enwright

Date: 02/07/2024

PM Review and Approval:



Amber Confer

Date: 02/07/2024

Project Name: Kop-Flex
PSS Project No.: 24031418

March 28, 2024

Eric Johnson
WSP USA - Herndon
13530 Dulles Technology Dr, Ste 300
Herndon, VA 20171



Reference: PSS Project No: **24031418**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 31405608.010/02.02

Dear Eric Johnson:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24031418**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on April 18, 2024, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,


Dan Prucnal

Laboratory Manager

Sample Summary

Project Name: Kop-Flex
 PSS Project No.: 24031418

The following samples were received under chain of custody by Phase Separation Science (PSS) on 03/14/2024 at 03:10 pm
 Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any
 sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24031418-001	Effluent VSP-4	WASTE WATER	03/14/24 14:10
24031418-002	TB-031424	WATER	03/14/24 15:10

Project Name: Kop-Flex
PSS Project No.: 24031418

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24031418

Sample ID: Effluent VSP-4 **Date/Time Sampled: 03/14/2024 14:10** **PSS Sample ID: 24031418-001**
Matrix: WASTE WATER **Date/Time Received: 03/14/2024 15:10**

Total Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Copper	1.1	ug/L	1.0		1	0.98	03/15/24	03/15/24 20:03	1064
Lead	ND	ug/L	1.0		1	0.66	03/15/24	03/15/24 20:03	1064
Nickel	7.0	ug/L	1.0		1	0.95	03/15/24	03/15/24 20:03	1064
Zinc	34.4	ug/L	20.0		1	7.1	03/15/24	03/15/24 20:03	1064

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	03/27/24	03/27/24 10:31	1011
Surrogate(s)	Recovery		Limits						
Dibromofluoromethane	105 %		94-108		1		03/27/24	03/27/24 10:31	1011
4-Bromofluorobenzene	103 %		77-120		1		03/27/24	03/27/24 10:31	1011
Toluene-D8	100 %		95-104		1		03/27/24	03/27/24 10:31	1011

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=7

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	03/15/24	03/15/24 11:38	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	03/15/24	03/15/24 11:38	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	03/15/24	03/15/24 11:38	1011
Chloromethane	ND	ug/L	1.0		1	0.33	03/15/24	03/15/24 11:38	1011
Vinyl Chloride	ND	ug/L	1.0		1	0.34	03/15/24	03/15/24 11:38	1011
Bromomethane	ND	ug/L	1.0		1	0.6	03/15/24	03/15/24 11:38	1011
Chloroethane	ND	ug/L	1.0		1	0.23	03/15/24	03/15/24 11:38	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	03/15/24	03/15/24 11:38	1011
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	03/15/24	03/15/24 11:38	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	03/15/24	03/15/24 11:38	1011
Methylene Chloride	ND	ug/L	1.0		1	0.34	03/15/24	03/15/24 11:38	1011
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	03/15/24	03/15/24 11:38	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	03/15/24	03/15/24 11:38	1011
Chloroform	ND	ug/L	1.0		1	0.21	03/15/24	03/15/24 11:38	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	03/15/24	03/15/24 11:38	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	03/15/24	03/15/24 11:38	1011
Benzene	ND	ug/L	1.0		1	0.19	03/15/24	03/15/24 11:38	1011

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24031418

Sample ID: Effluent VSP-4 **Date/Time Sampled: 03/14/2024 14:10** **PSS Sample ID: 24031418-001**
Matrix: WASTE WATER **Date/Time Received: 03/14/2024 15:10**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=7

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	03/15/24	03/15/24 11:38	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	03/15/24	03/15/24 11:38	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	03/15/24	03/15/24 11:38	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	03/15/24	03/15/24 11:38	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	03/15/24	03/15/24 11:38	1011
Toluene	ND	ug/L	1.0		1	0.52	03/15/24	03/15/24 11:38	1011
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	03/15/24	03/15/24 11:38	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	03/15/24	03/15/24 11:38	1011
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	03/15/24	03/15/24 11:38	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	03/15/24	03/15/24 11:38	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	03/15/24	03/15/24 11:38	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	03/15/24	03/15/24 11:38	1011
Bromoform	ND	ug/L	1.0		1	0.17	03/15/24	03/15/24 11:38	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	03/15/24	03/15/24 11:38	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	03/15/24	03/15/24 11:38	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	03/15/24	03/15/24 11:38	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	03/15/24	03/15/24 11:38	1011
Surrogate(s) Recovery Limits									
<i>Dibromofluoromethane</i>	102	%	94-108		1		03/15/24	03/15/24 11:38	1011
<i>4-Bromofluorobenzene</i>	115	%	77-120		1		03/15/24	03/15/24 11:38	1011
<i>Toluene-D8</i>	101	%	95-104		1		03/15/24	03/15/24 11:38	1011

Total Suspended Solids Analytical Method: SM 2540D -2015

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Total Suspended Solids	ND	mg/L	1.0		1	0.4	03/19/24	03/19/24 17:15	1059

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24031418

Sample ID: TB-031424 **Date/Time Sampled: 03/14/2024 15:10** **PSS Sample ID: 24031418-002**
Matrix: WATER **Date/Time Received: 03/14/2024 15:10**

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	03/27/24	03/27/24 10:52	1011
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	105	%	94-108		1		03/27/24	03/27/24 10:52	1011
<i>4-Bromofluorobenzene</i>	105	%	77-120		1		03/27/24	03/27/24 10:52	1011
<i>Toluene-D8</i>	99	%	95-104		1		03/27/24	03/27/24 10:52	1011

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	03/15/24	03/15/24 11:59	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	03/15/24	03/15/24 11:59	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	03/15/24	03/15/24 11:59	1011
Chloromethane	ND	ug/L	1.0		1	0.33	03/15/24	03/15/24 11:59	1011
Vinyl Chloride	ND	ug/L	1.0		1	0.34	03/15/24	03/15/24 11:59	1011
Bromomethane	ND	ug/L	1.0		1	0.6	03/15/24	03/15/24 11:59	1011
Chloroethane	ND	ug/L	1.0		1	0.23	03/15/24	03/15/24 11:59	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	03/15/24	03/15/24 11:59	1011
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	03/15/24	03/15/24 11:59	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	03/15/24	03/15/24 11:59	1011
Methylene Chloride	ND	ug/L	1.0		1	0.34	03/15/24	03/15/24 11:59	1011
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	03/15/24	03/15/24 11:59	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	03/15/24	03/15/24 11:59	1011
Chloroform	ND	ug/L	1.0		1	0.21	03/15/24	03/15/24 11:59	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	03/15/24	03/15/24 11:59	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	03/15/24	03/15/24 11:59	1011
Benzene	ND	ug/L	1.0		1	0.19	03/15/24	03/15/24 11:59	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	03/15/24	03/15/24 11:59	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	03/15/24	03/15/24 11:59	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	03/15/24	03/15/24 11:59	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	03/15/24	03/15/24 11:59	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	03/15/24	03/15/24 11:59	1011
Toluene	ND	ug/L	1.0		1	0.52	03/15/24	03/15/24 11:59	1011
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	03/15/24	03/15/24 11:59	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	03/15/24	03/15/24 11:59	1011

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24031418

Sample ID: TB-031424 **Date/Time Sampled: 03/14/2024 15:10** **PSS Sample ID: 24031418-002**
Matrix: WATER **Date/Time Received: 03/14/2024 15:10**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	03/15/24	03/15/24 11:59	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	03/15/24	03/15/24 11:59	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	03/15/24	03/15/24 11:59	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	03/15/24	03/15/24 11:59	1011
Bromoform	ND	ug/L	1.0		1	0.17	03/15/24	03/15/24 11:59	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	03/15/24	03/15/24 11:59	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	03/15/24	03/15/24 11:59	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	03/15/24	03/15/24 11:59	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	03/15/24	03/15/24 11:59	1011
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	101 %		94-108		1		03/15/24	03/15/24 11:59	1011
<i>4-Bromofluorobenzene</i>	110 %		77-120		1		03/15/24	03/15/24 11:59	1011
<i>Toluene-D8</i>	101 %		95-104		1		03/15/24	03/15/24 11:59	1011

Case Narrative

Project Name: Kop-Flex

PSS Project No.: 24031418

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

EPA 624 .1: 1,4-Dioxane

Lab Chronology

Project Name: Kop-Flex
PSS Project No.: 24031418

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 200.8	24031418-001	584	Initial	W	99314	211172	03/15/2024 11:25	03/15/2024 20:03
	99314-1-BKS		BKS	W	99314	211172	03/15/2024 11:25	03/15/2024 18:52
	99314-1-BLK		BLK	W	99314	211172	03/15/2024 11:25	03/15/2024 18:46
	24031214-001 S	245	MS	W	99314	211172	03/15/2024 11:25	03/15/2024 19:02
	24031503-001 S	656	MS	W	99314	211172	03/15/2024 11:25	03/15/2024 20:13
	24031214-001 SD	245	MSD	W	99314	211172	03/15/2024 11:25	03/15/2024 19:07
	EPA 624 .1	24031418-001	588	Initial	W	99339	211154	03/15/2024 09:35
24031418-002		591	Initial	W	99339	211154	03/15/2024 09:35	03/15/2024 11:59
99339-1-BKS			BKS	W	99339	211154	03/15/2024 09:35	03/15/2024 09:56
99339-1-BLK			BLK	W	99339	211154	03/15/2024 09:35	03/15/2024 10:57
24031418-001 S		589	MS	W	99339	211154	03/15/2024 09:35	03/15/2024 14:01
24031418-001 SD		589	MSD	W	99339	211154	03/15/2024 09:35	03/15/2024 14:22
EPA 624 .1		24031418-001	585	Initial	W	99469	211454	03/27/2024 08:33
	24031418-002	592	Initial	W	99469	211454	03/27/2024 08:33	03/27/2024 10:52
	99469-1-BKS		BKS	W	99469	211454	03/27/2024 08:33	03/27/2024 08:53
	99469-1-BLK		BLK	W	99469	211454	03/27/2024 08:33	03/27/2024 10:11
	99469-1-BSD		BSD	W	99469	211454	03/27/2024 08:33	03/27/2024 09:30
	24031418-001 S	586	MS	W	99469	211454	03/27/2024 08:33	03/27/2024 11:12
	24031418-001 SD	586	MSD	W	99469	211454	03/27/2024 08:33	03/27/2024 11:33
SM 2540D -2015	24031418-001	583	Initial	W	211270	211270	03/19/2024 17:15	03/19/2024 17:15
	211270-1-BKS		BKS	W	211270	211270	03/19/2024 17:15	03/19/2024 17:15
	211270-1-BLK		BLK	W	211270	211270	03/19/2024 17:15	03/19/2024 17:15
	24031907-001 D	1	MD	W	211270	211270	03/19/2024 17:15	03/19/2024 17:15

Project Name Kop-Flex
PSS Project No.: 24031418

Analytical Method: SM 2540D -2015

Seq Number: 211270 Matrix: Water
MB Sample ID: 211270-1-BLK LCS Sample ID: 211270-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Total Suspended Solids	<0.4000	102.9	101.6	99	86-110	mg/L	

Analytical Method: EPA 200.8

Seq Number: 211172 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 99314-1-BLK LCS Sample ID: 99314-1-BKS Date Prep: 03/15/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Copper	<0.9800	50.00	49.96	100	85-115	ug/L	
Lead	<0.6600	50.00	51.35	103	85-115	ug/L	
Nickel	<0.9500	50.00	48.99	98	85-115	ug/L	
Zinc	<7.100	100	100.2	100	85-115	ug/L	

Analytical Method: EPA 624 .1

Seq Number: 211454 Matrix: Water Prep Method: E624PREP
MB Sample ID: 99469-1-BLK LCS Sample ID: 99469-1-BKS Date Prep: 03/27/24
LCSD Sample ID: 99469-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<0.02600	30.00	32.48	108	31.89	106	54-145	2	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Dibromofluoromethane	106		102		103		94-108	%
4-Bromofluorobenzene	107		102		105		77-120	%
Toluene-D8	100		98		97		95-104	%

Project Name Kop-Flex

PSS Project No.: 24031418

Analytical Method: EPA 624 .1

Seq Number: 211154

MB Sample ID: 99339-1-BLK

Matrix: Water

LCS Sample ID: 99339-1-BKS

Prep Method: E624PREP

Date Prep: 03/15/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acrolein	<0.001700	50.00	44.82	90	60-140	ug/L	
Acrylonitrile	<0.001500	50.00	51.17	102	60-140	ug/L	
Dichlorodifluoromethane	<0.0002300	50.00	55.06	110	51-128	ug/L	
Chloromethane	<0.0003300	50.00	49.32	99	1-205	ug/L	
Vinyl Chloride	<0.0003400	50.00	49.81	100	5-195	ug/L	
Bromomethane	0.05000	50.00	40.89	82	15-185	ug/L	
Chloroethane	<0.0002300	50.00	43.43	87	40-160	ug/L	
Trichlorofluoromethane	<0.0001700	50.00	47.88	96	50-150	ug/L	
2-Chloroethyl Vinyl Ether	<0.001000	50.00	21.28	43	1-225	ug/L	
1,1-Dichloroethene	<0.0001800	50.00	45.63	91	50-150	ug/L	
Methylene Chloride	<0.0003400	50.00	48.07	96	60-140	ug/L	
trans-1,2-dichloroethene	<0.0002900	50.00	46.34	93	70-130	ug/L	
1,1-Dichloroethane	<0.0001900	50.00	47.29	95	70-130	ug/L	
Chloroform	0.1100	50.00	47.44	95	70-135	ug/L	
1,1,1-Trichloroethane	<0.0001600	50.00	45.56	91	70-130	ug/L	
Carbon Tetrachloride	<0.0002200	50.00	48.02	96	70-130	ug/L	
Benzene	<0.0001900	50.00	47.80	96	65-135	ug/L	
1,2-Dichloroethane	<0.0001800	50.00	49.27	99	70-130	ug/L	
Trichloroethene	0.04000	50.00	47.13	94	65-135	ug/L	
1,2-Dichloropropane	<0.0001700	50.00	50.11	100	35-165	ug/L	
Bromodichloromethane	<0.0001800	50.00	50.54	101	65-135	ug/L	
cis-1,3-Dichloropropene	<0.0001500	50.00	48.02	96	25-175	ug/L	
Toluene	0.03000	50.00	46.72	93	70-130	ug/L	
trans-1,3-dichloropropene	<0.0001500	50.00	47.71	95	50-150	ug/L	
1,1,2-Trichloroethane	<0.0002600	50.00	50.37	101	70-130	ug/L	
Tetrachloroethylene	<0.0002300	50.00	45.35	91	70-130	ug/L	
Dibromochloromethane	<0.0001800	50.00	51.72	103	70-135	ug/L	
Chlorobenzene	<0.0002300	50.00	48.48	97	65-135	ug/L	
Ethylbenzene	0.04000	50.00	49.83	100	60-140	ug/L	
Bromoform	<0.0001700	50.00	48.12	96	70-130	ug/L	
1,1,2,2-Tetrachloroethane	<0.0002700	50.00	51.11	102	60-140	ug/L	
1,3-Dichlorobenzene	0.1300	50.00	49.93	100	70-130	ug/L	
1,4-Dichlorobenzene	<0.0002600	50.00	48.84	98	65-135	ug/L	
1,2-Dichlorobenzene	0.1000	50.00	50.18	100	65-135	ug/L	
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	
Dibromofluoromethane	100		101		94-108	%	
4-Bromofluorobenzene	112		99		77-120	%	
Toluene-D8	100		100		95-104	%	

Project Name Kop-Flex
PSS Project No.: 24031418

Analytical Method: EPA 624 .1

Seq Number: 211154

Parent Sample ID: 24031418-001

Matrix: Waste Water

MS Sample ID: 24031418-001 S

Prep Method: E624PREP

Date Prep: 03/15/24

MSD Sample ID: 24031418-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acrolein	<1.700	50.00	40.99	82	40.99	82	40-160	0	60	ug/L	
Acrylonitrile	<1.500	50.00	44.39	89	45.77	92	40-160	3	60	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	55.80	112	51.28	103	49-132	8	14	ug/L	
Chloromethane	<0.3300	50.00	52.02	104	46.71	93	1-273	11	60	ug/L	
Vinyl Chloride	<0.3400	50.00	50.82	102	42.13	84	1-251	19	66	ug/L	
Bromomethane	<0.6000	50.00	43.08	86	42.58	85	1-242	1	61	ug/L	
Chloroethane	<0.2300	50.00	45.66	91	42.09	84	14-230	8	78	ug/L	
Trichlorofluoromethane	<0.1700	50.00	49.56	99	45.33	91	17-181	9	84	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	16.70	33	17.80	36	1-305	6	71	ug/L	
1,1-Dichloroethene	<0.1800	50.00	41.72	83	44.04	88	1-234	5	32	ug/L	
Methylene Chloride	<0.3400	50.00	48.30	97	46.29	93	1-221	4	28	ug/L	
trans-1,2-dichloroethene	<0.2900	50.00	47.61	95	45.38	91	54-156	5	45	ug/L	
1,1-Dichloroethane	<0.1900	50.00	47.49	95	45.37	91	59-155	5	40	ug/L	
Chloroform	<0.2100	50.00	47.85	96	45.38	91	51-138	5	54	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	46.76	94	44.36	89	52-162	5	36	ug/L	
Carbon Tetrachloride	<0.2200	50.00	49.20	98	46.62	93	70-140	5	41	ug/L	
Benzene	<0.1900	50.00	48.93	98	46.28	93	37-151	6	61	ug/L	
1,2-Dichloroethane	<0.1800	50.00	48.03	96	46.24	92	49-155	4	49	ug/L	
Trichloroethene	<0.1900	50.00	48.55	97	46.35	93	70-157	5	48	ug/L	
1,2-Dichloropropane	<0.1700	50.00	49.91	100	47.64	95	1-210	5	55	ug/L	
Bromodichloromethane	<0.1800	50.00	49.70	99	47.52	95	35-155	4	56	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	46.64	93	45.10	90	1-227	3	58	ug/L	
Toluene	<0.5200	50.00	48.08	96	45.45	91	47-150	6	41	ug/L	
trans-1,3-dichloropropene	<0.1500	50.00	45.21	90	44.27	89	17-183	2	86	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	48.73	97	47.14	94	52-150	3	45	ug/L	
Tetrachloroethylene	<0.2300	50.00	47.43	95	44.62	89	64-148	6	39	ug/L	
Dibromochloromethane	<0.1800	50.00	49.73	99	47.28	95	53-149	5	50	ug/L	
Chlorobenzene	<0.2300	50.00	49.15	98	46.06	92	37-160	6	53	ug/L	
Ethylbenzene	<0.1500	50.00	51.48	103	47.53	95	37-162	8	63	ug/L	
Bromoform	<0.1700	50.00	45.17	90	43.65	87	45-169	3	42	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	47.45	95	45.28	91	46-157	5	61	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	48.81	98	46.27	93	59-156	5	43	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	48.06	96	45.30	91	18-190	6	57	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	48.77	98	46.00	92	18-190	6	57	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	98		100		94-108	%
4-Bromofluorobenzene	97		97		77-120	%
Toluene-D8	100		101		95-104	%

QC Summary

Project Name Kop-Flex
PSS Project No.: 24031418

Analytical Method: EPA 624 .1

Seq Number: 211454

Parent Sample ID: 24031418-001

Matrix: Waste Water

MS Sample ID: 24031418-001 S

Prep Method: E624PREP

Date Prep: 03/27/24

MSD Sample ID: 24031418-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<1.000	30.00	29.33	98	31.52	105	59-145	7	18	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	102		103		94-108	%
4-Bromofluorobenzene	102		103		77-120	%
Toluene-D8	98		99		95-104	%

Project Name Kop-Flex

PSS Project No.: 24031418

Analytical Method: EPA 200.8

CCV Sample Id: CCV 1 Seq Number: 211172

Analyzed Date: 03/15/24 19:43

Parameter	CCV %Rec	Limits	Flag
Copper	97	85-115	
Lead	99	85-115	
Nickel	96	85-115	
Zinc	98	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 2 Seq Number: 211172

Analyzed Date: 03/15/24 20:49

Parameter	CCV %Rec	Limits	Flag
Copper	96	85-115	
Lead	100	85-115	
Nickel	96	85-115	
Zinc	98	85-115	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 211172

Analyzed Date: 03/15/24 17:52

Parameter	ICV %Rec	Limits	Flag
Copper	101	90-110	
Lead	104	90-110	
Nickel	99	90-110	
Zinc	101	90-110	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 210552

Analyzed Date: 02/21/24 11:47

Parameter	ICV %Rec	Limits	Flag
1,4-Dioxane	105	54-145	X
Surrogate		Limits	Flag
Dibromofluoromethane	99	94-108	
4-Bromofluorobenzene	99	77-120	
Toluene-D8	99	95-104	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 210950

Analyzed Date: 02/26/24 11:52

Parameter	ICV %Rec	Limits	Flag
Acrolein	84	60-140	
Acrylonitrile	89	60-140	
Dichlorodifluoromethane	97	51-128	
Chloromethane	96	1-205	
Vinyl Chloride	76	5-195	
Bromomethane	91	15-185	
Chloroethane	90	40-160	
Trichlorofluoromethane	90	50-150	
2-Chloroethyl Vinyl Ether	81	1-225	
1,1-Dichloroethene	90	50-150	
Methylene Chloride	93	60-140	
trans-1,2-dichloroethene	92	70-130	
1,1-Dichloroethane	92	70-130	
Chloroform	90	70-135	
1,1,1-Trichloroethane	93	70-130	
Carbon Tetrachloride	94	70-130	
Benzene	92	65-135	
1,2-Dichloroethane	91	70-130	
Trichloroethene	92	65-135	
1,2-Dichloropropane	92	35-165	
Bromodichloromethane	94	65-135	
cis-1,3-Dichloropropene	92	25-175	
Toluene	92	70-130	
trans-1,3-dichloropropene	91	50-150	
1,1,2-Trichloroethane	91	70-130	

Project Name Kop-Flex
PSS Project No.: 24031418

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 210950

Analyzed Date: 02/26/24 11:52

Parameter	ICV %Rec	Limits	Flag
Tetrachloroethylene	93	70-130	
Dibromochloromethane	96	70-135	
Chlorobenzene	92	65-135	
Ethylbenzene	95	60-140	
Bromoform	87	70-130	
1,1,2,2-Tetrachloroethane	88	60-140	
1,3-Dichlorobenzene	94	70-130	
1,4-Dichlorobenzene	93	65-135	
1,2-Dichlorobenzene	94	65-135	

Surrogate		Limits	Flag
Dibromofluoromethane	100	94-108	
4-Bromofluorobenzene	98	77-120	
Toluene-D8	100	95-104	

**PHASE
SEPARATION
SCIENCE**

CHAIN OF CUSTODY FORM

All fields must be completed accurately. Shaded sections for lab use only.

www.phaseonline.com ~ info@phaseonline.com

6630 Baltimore National Pike • Suite 103-A • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047

PSS CLIENT: WSP USA		OFFICE LOCATION: Herndon, VA		PSS Work Order #: 24 031418			PAGE 1 OF 1							
BILL TO (if different):		PHONE #: 703-709-6500		Matrix Codes: SW=Surface Water DW=Drinking Water GW=Ground Water WW=Waste Water O=Oil S=Soil SOL=Solid A=Air WI=Wipe										
CONTACT: Eric Johnson		EMAIL: eric.johnson@wsp.com		# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes				Preservative Codes				
PROJECT NAME: Kop-Flex		PROJECT #: 314USG08010/202				Analysis/Method Required				1 - HCL 2 - H ₂ SO ₄ 3 - HNO ₃ 4 - NaOH 5 - E624KIT 6 - ICE 7 - Sodium Thiosulfate 8 - Ascorbic Acid 9 - TerraCore Kit				
SITE LOCATION: Hanover, MD		P.O. #:				116 1 3 6 VOCs (624.1) 1,4-dioxane (624.1) Total metals (624.5) TSS								
SAMPLER(S): Shannon Burke		DW CERT #:												
PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Analysis/Method Required				Preservative Codes			
1	EFFluent VSP-4	3/14/24	1410	WW	8	G	X	X	X	X				
2	TB-031424	---		TB	4	-	X	X						
Relinquished By: (1)		Date	Time	Received By:		Requested TAT (One TAT per COC)				Ice Present: PPES TB=1.30C				
Shannon Burke		3/14/24	1510	alex wong		<input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input checked="" type="checkbox"/> Other				Custody Seal: INTACT-COOLER				
Relinquished By: (2)		Date	Time	Received By:		STATE RESULTS REPORTED TO:				# Coolers: 1 Temp: 1.8-1.9°C				
						<input type="checkbox"/> MD <input type="checkbox"/> DE <input type="checkbox"/> PA <input type="checkbox"/> VA <input type="checkbox"/> WV <input type="checkbox"/> OTHER				Shipping Carrier: Chent				
Relinquished By: (3)		Date	Time	Received By:		COMPLIANCE?		Special Instructions:						
						<input type="checkbox"/> DW <input type="checkbox"/> WW		Standard 10-day TAT Total metals = Cu, Pb, Ni, Zn						
Relinquished By: (4)		Date	Time	Received By:		EDD FORMAT TYPE								

Sample Receipt Checklist

Project Name: Kop-Flex
PSS Project No.: 24031418

Client Name WSP USA - Herndon
Disposal Date 04/18/2024

Received By Amber Confer
Date Received 03/14/2024 03:10 PM
Delivered By Client
Tracking # Not Applicable
Logged In By Amber Confer

Shipping Container(s)

of Coolers 1

Custody Seal(s) Intact? Yes
Seal(s) Signed / Dated? Yes

Ice Present
Temp (°C) 1.9
Temp Blank Present Yes

Documentation

COC agrees with sample labels? Yes
Chain of Custody Yes

Sampler Name Shannon Burke
MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes
Intact? Yes
Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? Yes

Total # of Samples Received 2
Total # of Containers Received 12

Preservation

Total Metals (pH<2) Yes
Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
Orthophosphorus, filtered within 15 minutes of collection N/A
Cyanides (pH>12) N/A
Sulfide (pH>9) N/A
TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
TOX, TKN, NH3, Total Phos (pH<2) N/A
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) Yes
Do VOA vials have zero headspace? Yes
624 VOC (Rcvd at least one unpreserved VOA vial) Yes
524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, the sample ID, preservative added, documentation of any client notification, and subsequent client instructions are noted below. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C, and <=4°C for EPA 524. Samples that are received by the lab on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that thermal preservation has begun.

Samples Inspected/Checklist Completed By: Amber Confer
Amber Confer

Date: 03/14/2024

PM Review and Approval: Lynn Jackson
Lynn Jackson
Page 17 of 17

Date: 03/14/2024

Project Name: Kop-Flex
PSS Project No.: 24040404

April 18, 2024

Eric Johnson
WSP USA - Herndon
13530 Dulles Technology Dr, Ste 300
Herndon, VA 20171



Reference: PSS Project No: **24040404**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 31405608.010/02.02

Dear Eric Johnson:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24040404**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on May 9, 2024, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,


Dan Prucnal

Laboratory Manager

Sample Summary

Project Name: Kop-Flex

PSS Project No.: 24040404

The following samples were received under chain of custody by Phase Separation Science (PSS) on 04/04/2024 at 10:38 am. Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24040404-001	Effluent VSP-4	WASTE WATER	04/04/24 09:05

Report Information

Project Name: Kop-Flex
PSS Project No.: 24040404

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24040404

Sample ID: Effluent VSP-4 **Date/Time Sampled: 04/04/2024 09:05** **PSS Sample ID: 24040404-001**
Matrix: WASTE WATER **Date/Time Received: 04/04/2024 10:38**

Total Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Copper	1.4	ug/L	1.0		1	0.98	04/05/24	04/05/24 16:43	1059
Lead	ND	ug/L	1.0		1	0.66	04/05/24	04/08/24 11:58	1059
Nickel	30.1	ug/L	1.00		1	0.95	04/05/24	04/05/24 16:43	1059
Zinc	43.8	ug/L	20.0		1	7.1	04/05/24	04/05/24 16:43	1059

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	04/10/24	04/10/24 10:23	1011
Surrogate(s)	Recovery		Limits						
Dibromofluoromethane	105 %		94-108		1		04/10/24	04/10/24 10:23	1011
4-Bromofluorobenzene	107 %		77-120		1		04/10/24	04/10/24 10:23	1011
Toluene-D8	99 %		95-104		1		04/10/24	04/10/24 10:23	1011

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=7

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	04/05/24	04/05/24 11:27	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	04/05/24	04/05/24 11:27	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	04/05/24	04/05/24 11:27	1011
Chloromethane	ND	ug/L	1.0		1	0.33	04/05/24	04/05/24 11:27	1011
Vinyl Chloride	ND	ug/L	1.0		1	0.34	04/05/24	04/05/24 11:27	1011
Bromomethane	ND	ug/L	1.0		1	0.6	04/05/24	04/05/24 11:27	1011
Chloroethane	ND	ug/L	1.0		1	0.23	04/05/24	04/05/24 11:27	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	04/05/24	04/05/24 11:27	1011
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	04/05/24	04/05/24 11:27	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	04/05/24	04/05/24 11:27	1011
Methylene Chloride	ND	ug/L	1.0		1	0.34	04/05/24	04/05/24 11:27	1011
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	04/05/24	04/05/24 11:27	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	04/05/24	04/05/24 11:27	1011
Chloroform	ND	ug/L	1.0		1	0.21	04/05/24	04/05/24 11:27	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	04/05/24	04/05/24 11:27	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	04/05/24	04/05/24 11:27	1011
Benzene	ND	ug/L	1.0		1	0.19	04/05/24	04/05/24 11:27	1011

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24040404

Sample ID: Effluent VSP-4 **Date/Time Sampled: 04/04/2024 09:05** **PSS Sample ID: 24040404-001**
Matrix: WASTE WATER **Date/Time Received: 04/04/2024 10:38**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=7

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	04/05/24	04/05/24 11:27	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	04/05/24	04/05/24 11:27	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	04/05/24	04/05/24 11:27	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	04/05/24	04/05/24 11:27	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	04/05/24	04/05/24 11:27	1011
Toluene	ND	ug/L	1.0		1	0.52	04/05/24	04/05/24 11:27	1011
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	04/05/24	04/05/24 11:27	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	04/05/24	04/05/24 11:27	1011
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	04/05/24	04/05/24 11:27	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	04/05/24	04/05/24 11:27	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	04/05/24	04/05/24 11:27	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	04/05/24	04/05/24 11:27	1011
Bromoform	ND	ug/L	1.0		1	0.17	04/05/24	04/05/24 11:27	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	04/05/24	04/05/24 11:27	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	04/05/24	04/05/24 11:27	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	04/05/24	04/05/24 11:27	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	04/05/24	04/05/24 11:27	1011
Surrogate(s) Recovery Limits									
<i>Dibromofluoromethane</i>	102	%	94-108		1		04/05/24	04/05/24 11:27	1011
<i>4-Bromofluorobenzene</i>	111	%	77-120		1		04/05/24	04/05/24 11:27	1011
<i>Toluene-D8</i>	100	%	95-104		1		04/05/24	04/05/24 11:27	1011

Total Suspended Solids Analytical Method: SM 2540D -2015

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Total Suspended Solids	ND	mg/L	2.1		1	0.84	04/08/24	04/08/24 17:45	1073

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24040404

Sample ID: Effluent VSP-4 **Date/Time Sampled: 04/04/2024 09:05** **PSS Sample ID: 24040404-001**
Matrix: WASTE WATER **Date/Time Received: 04/04/2024 10:38**

Biochemical Oxygen Demand Analytical Method: SM 5210B -2016

Qualifier(s): See NELAP accreditation section on Case Narrative.

	Result	Units	RL	Flag	MDL	Prepared	Analyzed	Analyst
Biochemical Oxygen Demand, 5 day	2	mg/L		2		04/05/24	04/05/24 11:01	4009

Case Narrative

Project Name: Kop-Flex

PSS Project No.: 24040404

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

24040404: Analyses associated with analyst code 4009 were performed by Martel Laboratories, Inc., 1025 Cromwell Bridge Road, Towson, MD 21204

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Analytical Method(s): SM 5210B -2016

EPA 624 .1: 1,4-Dioxane

Lab Chronology

Project Name: Kop-Flex
 PSS Project No.: 24040404

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 200.8	24040404-001	402	Initial	W	99581	211704	04/05/2024 10:10	04/05/2024 16:43
	99581-1-BKS		BKS	W	99581	211704	04/05/2024 10:10	04/05/2024 16:38
	99581-1-BLK		BLK	W	99581	211704	04/05/2024 10:10	04/05/2024 16:33
	24040404-001 S	402	MS	W	99581	211704	04/05/2024 10:10	04/05/2024 16:49
	24040404-001 SD	402	MSD	W	99581	211704	04/05/2024 10:10	04/05/2024 16:54
	99581-1-BKS		Reanalysis	W	99581	211731	04/05/2024 10:10	04/08/2024 11:53
	99581-1-BLK		Reanalysis	W	99581	211731	04/05/2024 10:10	04/08/2024 11:48
	24040404-001	402	Reanalysis	W	99581	211731	04/05/2024 10:10	04/08/2024 11:58
EPA 624 .1	24040404-001	406	Initial	W	99599	211705	04/05/2024 09:24	04/05/2024 11:27
	99599-1-BKS		BKS	W	99599	211705	04/05/2024 09:24	04/05/2024 09:44
	99599-1-BLK		BLK	W	99599	211705	04/05/2024 09:24	04/05/2024 10:46
	24040404-001 S	408	MS	W	99599	211705	04/05/2024 09:24	04/05/2024 13:09
	24040404-001 SD	408	MSD	W	99599	211705	04/05/2024 09:24	04/05/2024 13:30
EPA 624 .1	24040404-001	403	Initial	W	99677	211822	04/10/2024 08:27	04/10/2024 10:23
	99677-1-BKS		BKS	W	99677	211822	04/10/2024 08:27	04/10/2024 08:47
	99677-1-BLK		BLK	W	99677	211822	04/10/2024 08:27	04/10/2024 10:02
	99677-1-BSD		BSD	W	99677	211822	04/10/2024 08:27	04/10/2024 09:21
	24040404-001 S	404	MS	W	99677	211822	04/10/2024 08:27	04/10/2024 11:45
	24040404-001 SD	404	MSD	W	99677	211822	04/10/2024 08:27	04/10/2024 12:05
SM 2540D -2015	24040404-001	400	Initial	W	211738	211738	04/08/2024 17:45	04/08/2024 17:45
	211738-1-BKS		BKS	W	211738	211738	04/08/2024 17:45	04/08/2024 17:45
	211738-1-BLK		BLK	W	211738	211738	04/08/2024 17:45	04/08/2024 17:45
	24040309-001 D	372	MD	W	211738	211738	04/08/2024 17:45	04/08/2024 17:45
	24040404-001 D	400	MD	W	211738	211738	04/08/2024 17:45	04/08/2024 17:45
SM 5210B -2016	24040404-001	401	Initial	W	211898	211898	04/05/2024 11:01	04/05/2024 11:01

QC Summary

Project Name Kop-Flex
PSS Project No.: 24040404

Analytical Method: SM 2540D -2015

Seq Number: 211738 Matrix: Water
MB Sample ID: 211738-1-BLK LCS Sample ID: 211738-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Total Suspended Solids	<0.4000	101.7	98.60	97	86-110	mg/L	

Analytical Method: SM 2540D -2015

Seq Number: 211738 Matrix: Waste Water
Parent Sample ID: 24040404-001 MD Sample ID: 24040404-001 D

Parameter	Parent Result	MD Result	RPD	RPD Limit	Units	Flag
Total Suspended Solids	<0.8421	<0.8421	NC	19	mg/L	

Analytical Method: EPA 200.8

Seq Number: 211704 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 99581-1-BLK LCS Sample ID: 99581-1-BKS Date Prep: 04/05/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Copper	<0.9800	50.00	50.14	100	85-115	ug/L	
Nickel	<0.9500	50.00	48.48	97	85-115	ug/L	
Zinc	<7.100	100	98.32	98	85-115	ug/L	

Analytical Method: EPA 200.8

Seq Number: 211731 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 99581-1-BLK LCS Sample ID: 99581-1-BKS Date Prep: 04/05/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Lead	<0.6600	50.00	53.43	107	85-115	ug/L	

Analytical Method: EPA 200.8

Seq Number: 211704 Matrix: Waste Water Prep Method: E200.8_PREP
Parent Sample ID: 24040404-001 MS Sample ID: 24040404-001 S Date Prep: 04/05/24
MSD Sample ID: 24040404-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Copper	1.432	50.00	53.52	104	52.90	103	70-130	1	25	ug/L	
Lead	2.823	50.00	54.12	103	54.23	103	70-130	0	25	ug/L	
Nickel	30.07	50.00	81.54	103	79.72	99	70-130	2	25	ug/L	
Zinc	43.82	100	148.6	105	144.8	101	70-130	3	25	ug/L	

QC Summary

Project Name Kop-Flex
PSS Project No.: 24040404

Analytical Method: EPA 624 .1

Seq Number: 211822

MB Sample ID: 99677-1-BLK

Matrix: Water

LCS Sample ID: 99677-1-BKS

Prep Method: E624PREP

Date Prep: 04/10/24

LCSD Sample ID: 99677-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<0.02600	30.00	27.90	93	28.10	94	54-145	1	20	ug/L	
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units			
Dibromofluoromethane	104		103		103		94-108	%			
4-Bromofluorobenzene	104		106		105		77-120	%			
Toluene-D8	100		99		99		95-104	%			

Project Name Kop-Flex
PSS Project No.: 24040404

Analytical Method: EPA 624 .1

Seq Number: 211705

Matrix: Water

Prep Method: E624PREP

Date Prep: 04/05/24

MB Sample ID: 99599-1-BLK

LCS Sample ID: 99599-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acrolein	<0.001700	50.00	46.57	93	60-140	ug/L	
Acrylonitrile	<0.001500	50.00	45.06	90	60-140	ug/L	
Dichlorodifluoromethane	<0.0002300	50.00	52.74	105	51-128	ug/L	
Chloromethane	<0.0003300	50.00	50.42	101	1-205	ug/L	
Vinyl Chloride	<0.0003400	50.00	63.00	126	5-195	ug/L	
Bromomethane	0.05000	50.00	50.08	100	15-185	ug/L	
Chloroethane	<0.0002300	50.00	42.43	85	40-160	ug/L	
Trichlorofluoromethane	<0.0001700	50.00	45.72	91	50-150	ug/L	
2-Chloroethyl Vinyl Ether	<0.001000	50.00	9.230	18	1-225	ug/L	
1,1-Dichloroethene	<0.0001800	50.00	42.83	86	50-150	ug/L	
Methylene Chloride	0.08000	50.00	45.44	91	60-140	ug/L	
trans-1,2-dichloroethene	<0.0002900	50.00	44.32	89	70-130	ug/L	
1,1-Dichloroethane	<0.0001900	50.00	44.28	89	70-130	ug/L	
Chloroform	0.1300	50.00	44.84	90	70-135	ug/L	
1,1,1-Trichloroethane	<0.0001600	50.00	43.08	86	70-130	ug/L	
Carbon Tetrachloride	<0.0002200	50.00	45.13	90	70-130	ug/L	
Benzene	<0.0001900	50.00	45.35	91	65-135	ug/L	
1,2-Dichloroethane	<0.0001800	50.00	45.29	91	70-130	ug/L	
Trichloroethene	<0.0001900	50.00	45.20	90	65-135	ug/L	
1,2-Dichloropropane	<0.0001700	50.00	47.05	94	35-165	ug/L	
Bromodichloromethane	<0.0001800	50.00	47.75	96	65-135	ug/L	
cis-1,3-Dichloropropene	<0.0001500	50.00	45.36	91	25-175	ug/L	
Toluene	0.03000	50.00	44.81	90	70-130	ug/L	
trans-1,3-dichloropropene	<0.0001500	50.00	44.67	89	50-150	ug/L	
1,1,2-Trichloroethane	<0.0002600	50.00	47.96	96	70-130	ug/L	
Tetrachloroethylene	0.06000	50.00	43.88	88	70-130	ug/L	
Dibromochloromethane	<0.0001800	50.00	50.38	101	70-135	ug/L	
Chlorobenzene	<0.0002300	50.00	47.01	94	65-135	ug/L	
Ethylbenzene	0.04000	50.00	48.02	96	60-140	ug/L	
Bromoform	<0.0001700	50.00	47.17	94	70-130	ug/L	
1,1,2,2-Tetrachloroethane	<0.0002700	50.00	50.75	102	60-140	ug/L	
1,3-Dichlorobenzene	0.1200	50.00	49.79	100	70-130	ug/L	
1,4-Dichlorobenzene	<0.0002600	50.00	48.64	97	65-135	ug/L	
1,2-Dichlorobenzene	0.1000	50.00	50.38	101	65-135	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units
Dibromofluoromethane	102		100		94-108	%
4-Bromofluorobenzene	112		100		77-120	%
Toluene-D8	100		99		95-104	%

Project Name Kop-Flex
PSS Project No.: 24040404

Analytical Method: EPA 624 .1

Seq Number: 211705

Parent Sample ID: 24040404-001

Matrix: Waste Water

MS Sample ID: 24040404-001 S

Prep Method: E624PREP

Date Prep: 04/05/24

MSD Sample ID: 24040404-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acrolein	<1.700	50.00	45.22	90	43.96	88	40-160	3	60	ug/L	
Acrylonitrile	<1.500	50.00	44.48	89	43.17	86	40-160	3	60	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	54.88	110	51.85	104	49-132	6	14	ug/L	
Chloromethane	<0.3300	50.00	51.41	103	48.27	97	1-273	6	60	ug/L	
Vinyl Chloride	<0.3400	50.00	44.24	88	43.86	88	1-251	1	66	ug/L	
Bromomethane	<0.6000	50.00	53.58	107	50.81	102	1-242	5	61	ug/L	
Chloroethane	<0.2300	50.00	45.32	91	41.69	83	14-230	8	78	ug/L	
Trichlorofluoromethane	<0.1700	50.00	48.85	98	45.78	92	17-181	6	84	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	9.670	19	9.690	19	1-305	0	71	ug/L	
1,1-Dichloroethene	<0.1800	50.00	46.00	92	43.16	86	1-234	6	32	ug/L	
Methylene Chloride	<0.3400	50.00	48.15	96	45.65	91	1-221	5	28	ug/L	
trans-1,2-dichloroethene	<0.2900	50.00	48.16	96	45.57	91	54-156	6	45	ug/L	
1,1-Dichloroethane	<0.1900	50.00	47.13	94	44.81	90	59-155	5	40	ug/L	
Chloroform	<0.2100	50.00	46.84	94	44.83	90	51-138	4	54	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	46.83	94	44.48	89	52-162	5	36	ug/L	
Carbon Tetrachloride	<0.2200	50.00	49.05	98	46.29	93	70-140	6	41	ug/L	
Benzene	<0.1900	50.00	48.38	97	46.02	92	37-151	5	61	ug/L	
1,2-Dichloroethane	<0.1800	50.00	46.44	93	45.16	90	49-155	3	49	ug/L	
Trichloroethene	<0.1900	50.00	49.10	98	46.49	93	70-157	5	48	ug/L	
1,2-Dichloropropane	<0.1700	50.00	49.50	99	47.43	95	1-210	4	55	ug/L	
Bromodichloromethane	<0.1800	50.00	48.90	98	46.99	94	35-155	4	56	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	46.60	93	44.93	90	1-227	4	58	ug/L	
Toluene	<0.5200	50.00	48.09	96	45.66	91	47-150	5	41	ug/L	
trans-1,3-dichloropropene	<0.1500	50.00	45.60	91	44.10	88	17-183	3	86	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	48.70	97	47.17	94	52-150	3	45	ug/L	
Tetrachloroethylene	<0.2300	50.00	47.52	95	45.28	91	64-148	5	39	ug/L	
Dibromochloromethane	<0.1800	50.00	49.21	98	48.07	96	53-149	2	50	ug/L	
Chlorobenzene	<0.2300	50.00	48.34	97	46.71	93	37-160	3	53	ug/L	
Ethylbenzene	<0.1500	50.00	49.71	99	47.78	96	37-162	4	63	ug/L	
Bromoform	<0.1700	50.00	45.37	91	44.37	89	45-169	2	42	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	48.66	97	48.14	96	46-157	1	61	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	49.90	100	48.97	98	59-156	2	43	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	48.42	97	47.76	96	18-190	1	57	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	49.70	99	49.11	98	18-190	1	57	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	100		100		94-108	%
4-Bromofluorobenzene	99		99		77-120	%
Toluene-D8	101		100		95-104	%

QC Summary

Project Name Kop-Flex
PSS Project No.: 24040404

Analytical Method: EPA 624 .1

Seq Number: 211822

Parent Sample ID: 24040404-001

Matrix: Waste Water

MS Sample ID: 24040404-001 S

Prep Method: E624PREP

Date Prep: 04/10/24

MSD Sample ID: 24040404-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<1.000	30.00	25.40	85	27.74	92	59-145	9	18	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	103		103		94-108	%
4-Bromofluorobenzene	102		103		77-120	%
Toluene-D8	99		100		95-104	%

Project Name Kop-Flex
PSS Project No.: 24040404

Analytical Method: EPA 200.8

CCV Sample Id: CCV 3 Seq Number: 211704
Analyzed Date: 04/05/24 16:01

Parameter	CCV %Rec	Limits	Flag
Copper	98	85-115	
Nickel	95	85-115	
Zinc	95	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 4 Seq Number: 211704
Analyzed Date: 04/05/24 17:10

Parameter	CCV %Rec	Limits	Flag
Copper	99	85-115	
Nickel	96	85-115	
Zinc	97	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 5 Seq Number: 211704
Analyzed Date: 04/05/24 18:19

Parameter	CCV %Rec	Limits	Flag
Copper	99	85-115	
Nickel	96	85-115	
Zinc	97	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 1 Seq Number: 211731
Analyzed Date: 04/08/24 12:46

Parameter	CCV %Rec	Limits	Flag
Lead	99	85-115	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 211704
Analyzed Date: 04/05/24 11:00

Parameter	ICV %Rec	Limits	Flag
Copper	103	90-110	
Nickel	99	90-110	
Zinc	99	90-110	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 211731
Analyzed Date: 04/08/24 11:21

Parameter	ICV %Rec	Limits	Flag
Lead	107	90-110	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 210552
Analyzed Date: 02/21/24 11:47

Parameter	ICV %Rec	Limits	Flag
1,4-Dioxane	105	54-145	
Surrogate		Limits	Flag
Dibromofluoromethane	99	94-108	
4-Bromofluorobenzene	99	77-120	
Toluene-D8	99	95-104	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 210950
Analyzed Date: 02/26/24 11:52

Parameter	ICV %Rec	Limits	Flag
Acrolein	84	60-140	
Acrylonitrile	89	60-140	
Dichlorodifluoromethane	97	51-128	
Chloromethane	96	1-205	
Vinyl Chloride	76	5-195	

Project Name Kop-Flex
PSS Project No.: 24040404

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 210950

Analyzed Date: 02/26/24 11:52

Parameter	ICV %Rec	Limits	Flag
Bromomethane	91	15-185	
Chloroethane	90	40-160	
Trichlorofluoromethane	90	50-150	
2-Chloroethyl Vinyl Ether	81	1-225	
1,1-Dichloroethene	90	50-150	
Methylene Chloride	93	60-140	
trans-1,2-dichloroethene	92	70-130	
1,1-Dichloroethane	92	70-130	
Chloroform	90	70-135	
1,1,1-Trichloroethane	93	70-130	
Carbon Tetrachloride	94	70-130	
Benzene	92	65-135	
1,2-Dichloroethane	91	70-130	
Trichloroethene	92	65-135	
1,2-Dichloropropane	92	35-165	
Bromodichloromethane	94	65-135	
cis-1,3-Dichloropropene	92	25-175	
Toluene	92	70-130	
trans-1,3-dichloropropene	91	50-150	
1,1,2-Trichloroethane	91	70-130	
Tetrachloroethylene	93	70-130	
Dibromochloromethane	96	70-135	
Chlorobenzene	92	65-135	
Ethylbenzene	95	60-140	
Bromoform	87	70-130	
1,1,2,2-Tetrachloroethane	88	60-140	
1,3-Dichlorobenzene	94	70-130	
1,4-Dichlorobenzene	93	65-135	
1,2-Dichlorobenzene	94	65-135	

Surrogate		Limits	Flag
Dibromofluoromethane	100	94-108	
4-Bromofluorobenzene	98	77-120	
Toluene-D8	100	95-104	

Sample Receipt Checklist

Project Name: Kop-Flex
PSS Project No.: 24040404

Client Name WSP USA - Herndon
Disposal Date 05/09/2024

Received By Tyler Enwright
Date Received 04/04/2024 10:38 AM
Delivered By Trans Time Express
Tracking # Not Applicable
Logged In By Tyler Enwright

Shipping Container(s)

of Coolers 1

Custody Seal(s) Intact? Yes
Seal(s) Signed / Dated? Yes

Ice Present
Temp (°C) 4.4
Temp Blank Present Yes

Documentation

COC agrees with sample labels? Yes
Chain of Custody Yes

Sampler Name Not Provided
N/A

Sample Container

Appropriate for Specified Analysis? Yes
Intact? Yes
Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? Yes

Total # of Samples Received 1
Total # of Containers Received 9

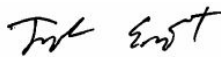
Preservation

Total Metals (pH<2) Yes
Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
Orthophosphorus, filtered within 15 minutes of collection N/A
Cyanides (pH>12) N/A
Sulfide (pH>9) N/A
TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
TOX, TKN, NH3, Total Phos (pH<2) N/A
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) Yes
Do VOA vials have zero headspace? Yes
624 VOC (Rcvd at least one unpreserved VOA vial) Yes
524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, the sample ID, preservative added, documentation of any client notification, and subsequent client instructions are noted below. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C, and <=4°C for EPA 524. Samples that are received by the lab on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that thermal preservation has begun.

Samples Inspected/Checklist Completed By:



Tyler Enwright

Date: 04/04/2024

PM Review and Approval:



Amber Confer

Date: 04/04/2024

Project Name: Kop-Flex
PSS Project No.: 24040405

April 18, 2024

Eric Johnson
WSP USA - Herndon
13530 Dulles Technology Dr, Ste 300
Herndon, VA 20171



Reference: PSS Project No: **24040405**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 31405608.010/02.02

Dear Eric Johnson:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24040405**.


All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on May 9, 2024, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,


Dan Prucnal

Laboratory Manager

Sample Summary

Project Name: Kop-Flex
 PSS Project No.: 24040405

The following samples were received under chain of custody by Phase Separation Science (PSS) on 04/04/2024 at 10:38 am. Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24040405-001	Influent VSP-1	GROUND WATER	04/04/24 09:15
24040405-002	TB-011024	WATER	04/04/24 00:00

Report Information

Project Name: Kop-Flex
PSS Project No.: 24040405

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24040405

Sample ID: Influent VSP-1 **Date/Time Sampled: 04/04/2024 09:15** **PSS Sample ID: 24040405-001**
Matrix: GROUND WATER **Date/Time Received: 04/04/2024 10:38**

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	117	ug/L	10.0		10	10	04/10/24	04/10/24 11:24	1011
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	105	%	94-108		1		04/10/24	04/10/24 11:04	1011
<i>4-Bromofluorobenzene</i>	102	%	77-120		1		04/10/24	04/10/24 11:04	1011
<i>Toluene-D8</i>	100	%	95-104		1		04/10/24	04/10/24 11:04	1011
<i>Dibromofluoromethane</i>	104	%	94-108		10		04/10/24	04/10/24 11:24	1011
<i>4-Bromofluorobenzene</i>	104	%	77-120		10		04/10/24	04/10/24 11:24	1011
<i>Toluene-D8</i>	101	%	95-104		10		04/10/24	04/10/24 11:24	1011

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 211703 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	5.0		1	1.5	04/05/24	04/05/24 12:08	1011
Benzene	ND	ug/L	1.0		1	0.19	04/05/24	04/05/24 12:08	1011
Bromochloromethane	ND	ug/L	1.0		1	0.28	04/05/24	04/05/24 12:08	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	04/05/24	04/05/24 12:08	1011
Bromoform	ND	ug/L	1.0		1	0.17	04/05/24	04/05/24 12:08	1011
Bromomethane	ND	ug/L	1.0		1	0.6	04/05/24	04/05/24 12:08	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	04/05/24	04/05/24 12:08	1011
Carbon Disulfide	ND	ug/L	1.0		1	0.35	04/05/24	04/05/24 12:08	1011
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	04/05/24	04/05/24 12:08	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	04/05/24	04/05/24 12:08	1011
Chloroethane	7.9	ug/L	1.0		1	0.23	04/05/24	04/05/24 12:08	1011
Chloroform	ND	ug/L	1.0		1	0.21	04/05/24	04/05/24 12:08	1011
Chloromethane	ND	ug/L	1.0		1	0.33	04/05/24	04/05/24 12:08	1011
Cyclohexane	ND	ug/L	1.0		1	0.32	04/05/24	04/05/24 12:08	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		1	0.19	04/05/24	04/05/24 12:08	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	04/05/24	04/05/24 12:08	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	0.22	04/05/24	04/05/24 12:08	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	04/05/24	04/05/24 12:08	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	04/05/24	04/05/24 12:08	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	04/05/24	04/05/24 12:08	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	04/05/24	04/05/24 12:08	1011
1,1-Dichloroethane	62	ug/L	1.0		1	0.19	04/05/24	04/05/24 12:08	1011

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24040405

Sample ID: Influent VSP-1 **Date/Time Sampled: 04/04/2024 09:15** **PSS Sample ID: 24040405-001**
Matrix: GROUND WATER **Date/Time Received: 04/04/2024 10:38**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 211703 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dichloroethane	1.6	ug/L	1.0		1	0.18	04/05/24	04/05/24 12:08	1011
cis-1,2-Dichloroethene	2.0	ug/L	1.0		1	0.19	04/05/24	04/05/24 12:08	1011
1,1-Dichloroethene	240	ug/L	10		10	1.8	04/05/24	04/05/24 14:31	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	04/05/24	04/05/24 12:08	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	04/05/24	04/05/24 12:08	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	04/05/24	04/05/24 12:08	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	04/05/24	04/05/24 12:08	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	04/05/24	04/05/24 12:08	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	04/05/24	04/05/24 12:08	1011
Isopropylbenzene	ND	ug/L	1.0		1	0.27	04/05/24	04/05/24 12:08	1011
Methyl Acetate	ND	ug/L	1.0		1	0.5	04/05/24	04/05/24 12:08	1011
Methylcyclohexane	ND	ug/L	1.0		1	0.14	04/05/24	04/05/24 12:08	1011
Methylene chloride	0.51	ug/L	1.0	J	1	0.34	04/05/24	04/05/24 12:08	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	04/05/24	04/05/24 12:08	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	0.17	04/05/24	04/05/24 12:08	1011
Naphthalene	ND	ug/L	1.0		1	0.6	04/05/24	04/05/24 12:08	1011
Styrene	ND	ug/L	1.0		1	0.17	04/05/24	04/05/24 12:08	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	04/05/24	04/05/24 12:08	1011
Tetrachloroethene	ND	ug/L	1.0		1	0.23	04/05/24	04/05/24 12:08	1011
Toluene	ND	ug/L	1.0		1	0.52	04/05/24	04/05/24 12:08	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	0.3	04/05/24	04/05/24 12:08	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	0.26	04/05/24	04/05/24 12:08	1011
1,1,1-Trichloroethane	17	ug/L	1.0		1	0.16	04/05/24	04/05/24 12:08	1011
Trichloroethene	1.0	ug/L	1.0		1	0.19	04/05/24	04/05/24 12:08	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	04/05/24	04/05/24 12:08	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	04/05/24	04/05/24 12:08	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	0.17	04/05/24	04/05/24 12:08	1011
Vinyl chloride	0.75	ug/L	1.0	J	1	0.34	04/05/24	04/05/24 12:08	1011
m&p-Xylene	ND	ug/L	2.0		1	0.4	04/05/24	04/05/24 12:08	1011
o-Xylene	ND	ug/L	1.0		1	0.18	04/05/24	04/05/24 12:08	1011

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24040405

Sample ID: Influent VSP-1 **Date/Time Sampled: 04/04/2024 09:15** **PSS Sample ID: 24040405-001**
Matrix: GROUND WATER **Date/Time Received: 04/04/2024 10:38**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 211703 on Case Narrative.

Surrogate(s)	Recovery		Limits					
4-Bromofluorobenzene	110	%	88-120	1	04/05/24	04/05/24 12:08	1011	
Dibromofluoromethane	102	%	92-107	1	04/05/24	04/05/24 12:08	1011	
Toluene-D8	100	%	95-106	1	04/05/24	04/05/24 12:08	1011	
4-Bromofluorobenzene	110	%	88-120	10	04/05/24	04/05/24 14:31	1011	
Dibromofluoromethane	102	%	92-107	10	04/05/24	04/05/24 14:31	1011	
Toluene-D8	100	%	95-106	10	04/05/24	04/05/24 14:31	1011	

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24040405

Sample ID: TB-011024 **Date/Time Sampled: 04/04/2024 00:00** **PSS Sample ID: 24040405-002**
Matrix: WATER **Date/Time Received: 04/04/2024 10:38**

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	04/10/24	04/10/24 10:43	1011
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	104	%	94-108		1		04/10/24	04/10/24 10:43	1011
<i>4-Bromofluorobenzene</i>	104	%	77-120		1		04/10/24	04/10/24 10:43	1011
<i>Toluene-D8</i>	100	%	95-104		1		04/10/24	04/10/24 10:43	1011

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	04/05/24	04/05/24 11:47	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	04/05/24	04/05/24 11:47	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	04/05/24	04/05/24 11:47	1011
Chloromethane	ND	ug/L	1.0		1	0.33	04/05/24	04/05/24 11:47	1011
Vinyl Chloride	ND	ug/L	1.0		1	0.34	04/05/24	04/05/24 11:47	1011
Bromomethane	ND	ug/L	1.0		1	0.6	04/05/24	04/05/24 11:47	1011
Chloroethane	ND	ug/L	1.0		1	0.23	04/05/24	04/05/24 11:47	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	04/05/24	04/05/24 11:47	1011
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	04/05/24	04/05/24 11:47	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	04/05/24	04/05/24 11:47	1011
Methylene Chloride	0.82	ug/L	1.0	J	1	0.34	04/05/24	04/05/24 11:47	1011
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	04/05/24	04/05/24 11:47	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	04/05/24	04/05/24 11:47	1011
Chloroform	2.3	ug/L	1.0		1	0.21	04/05/24	04/05/24 11:47	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	04/05/24	04/05/24 11:47	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	04/05/24	04/05/24 11:47	1011
Benzene	ND	ug/L	1.0		1	0.19	04/05/24	04/05/24 11:47	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	04/05/24	04/05/24 11:47	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	04/05/24	04/05/24 11:47	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	04/05/24	04/05/24 11:47	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	04/05/24	04/05/24 11:47	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	04/05/24	04/05/24 11:47	1011
Toluene	ND	ug/L	1.0		1	0.52	04/05/24	04/05/24 11:47	1011
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	04/05/24	04/05/24 11:47	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	04/05/24	04/05/24 11:47	1011

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24040405

Sample ID: TB-011024 **Date/Time Sampled: 04/04/2024 00:00** **PSS Sample ID: 24040405-002**
Matrix: WATER **Date/Time Received: 04/04/2024 10:38**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	04/05/24	04/05/24 11:47	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	04/05/24	04/05/24 11:47	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	04/05/24	04/05/24 11:47	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	04/05/24	04/05/24 11:47	1011
Bromoform	ND	ug/L	1.0		1	0.17	04/05/24	04/05/24 11:47	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	04/05/24	04/05/24 11:47	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	04/05/24	04/05/24 11:47	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	04/05/24	04/05/24 11:47	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	04/05/24	04/05/24 11:47	1011
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	101 %		94-108		1		04/05/24	04/05/24 11:47	1011
<i>4-Bromofluorobenzene</i>	110 %		77-120		1		04/05/24	04/05/24 11:47	1011
<i>Toluene-D8</i>	100 %		95-104		1		04/05/24	04/05/24 11:47	1011

Case Narrative

Project Name: Kop-Flex

PSS Project No.: 24040405

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

Analytical:

TCL Volatile Organic Compounds

Batch: 211703

Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

EPA 624 .1: 1,4-Dioxane

Lab Chronology

Project Name: Kop-Flex
 PSS Project No.: 24040405

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 624 .1	24040405-002	641	Initial	W	99599	211705	04/05/2024 09:24	04/05/2024 11:47
	99599-1-BKS		BKS	W	99599	211705	04/05/2024 09:24	04/05/2024 09:44
	99599-1-BLK		BLK	W	99599	211705	04/05/2024 09:24	04/05/2024 10:46
	24040404-001 S	408	MS	W	99599	211705	04/05/2024 09:24	04/05/2024 13:09
	24040404-001 SD	408	MSD	W	99599	211705	04/05/2024 09:24	04/05/2024 13:30
EPA 624 .1	24040405-002	642	Initial	W	99677	211822	04/10/2024 08:27	04/10/2024 10:43
	99677-1-BKS		BKS	W	99677	211822	04/10/2024 08:27	04/10/2024 08:47
	99677-1-BLK		BLK	W	99677	211822	04/10/2024 08:27	04/10/2024 10:02
	99677-1-BSD		BSD	W	99677	211822	04/10/2024 08:27	04/10/2024 09:21
	24040404-001 S	404	MS	W	99677	211822	04/10/2024 08:27	04/10/2024 11:45
	24040404-001 SD	404	MSD	W	99677	211822	04/10/2024 08:27	04/10/2024 12:05
	24040405-001	638	Reanalysis	W	99677	211822	04/10/2024 08:27	04/10/2024 11:24
SW-846 8260 D	24040405-001	635	Initial	W	99597	211703	04/05/2024 09:44	04/05/2024 12:08
	99597-1-BKS		BKS	W	99597	211703	04/05/2024 09:44	04/05/2024 09:44
	99597-1-BLK		BLK	W	99597	211703	04/05/2024 09:44	04/05/2024 10:46
	24040408-001 S	424	MS	W	99597	211703	04/05/2024 09:44	04/05/2024 12:28
	24040408-001 SD	424	MSD	W	99597	211703	04/05/2024 09:44	04/05/2024 12:49
	24040405-001	635	Reanalysis	W	99597	211703	04/05/2024 09:44	04/05/2024 14:31

QC Summary

Project Name Kop-Flex
PSS Project No.: 24040405

Analytical Method: EPA 624 .1

Seq Number: 211822

MB Sample ID: 99677-1-BLK

Matrix: Water

LCS Sample ID: 99677-1-BKS

Prep Method: E624PREP

Date Prep: 04/10/24

LCSD Sample ID: 99677-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<0.02600	30.00	27.90	93	28.10	94	54-145	1	20	ug/L	
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units			
Dibromofluoromethane	104		103		103		94-108	%			
4-Bromofluorobenzene	104		106		105		77-120	%			
Toluene-D8	100		99		99		95-104	%			

Project Name Kop-Flex

PSS Project No.: 24040405

Analytical Method: EPA 624 .1

Seq Number: 211705

MB Sample ID: 99599-1-BLK

Matrix: Water

LCS Sample ID: 99599-1-BKS

Prep Method: E624PREP

Date Prep: 04/05/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acrolein	<0.001700	50.00	46.57	93	60-140	ug/L	
Acrylonitrile	<0.001500	50.00	45.06	90	60-140	ug/L	
Dichlorodifluoromethane	<0.0002300	50.00	52.74	105	51-128	ug/L	
Chloromethane	<0.0003300	50.00	50.42	101	1-205	ug/L	
Vinyl Chloride	<0.0003400	50.00	63.00	126	5-195	ug/L	
Bromomethane	0.05000	50.00	50.08	100	15-185	ug/L	
Chloroethane	<0.0002300	50.00	42.43	85	40-160	ug/L	
Trichlorofluoromethane	<0.0001700	50.00	45.72	91	50-150	ug/L	
2-Chloroethyl Vinyl Ether	<0.001000	50.00	9.230	18	1-225	ug/L	
1,1-Dichloroethene	<0.0001800	50.00	42.83	86	50-150	ug/L	
Methylene Chloride	0.08000	50.00	45.44	91	60-140	ug/L	
trans-1,2-dichloroethene	<0.0002900	50.00	44.32	89	70-130	ug/L	
1,1-Dichloroethane	<0.0001900	50.00	44.28	89	70-130	ug/L	
Chloroform	0.1300	50.00	44.84	90	70-135	ug/L	
1,1,1-Trichloroethane	<0.0001600	50.00	43.08	86	70-130	ug/L	
Carbon Tetrachloride	<0.0002200	50.00	45.13	90	70-130	ug/L	
Benzene	<0.0001900	50.00	45.35	91	65-135	ug/L	
1,2-Dichloroethane	<0.0001800	50.00	45.29	91	70-130	ug/L	
Trichloroethene	<0.0001900	50.00	45.20	90	65-135	ug/L	
1,2-Dichloropropane	<0.0001700	50.00	47.05	94	35-165	ug/L	
Bromodichloromethane	<0.0001800	50.00	47.75	96	65-135	ug/L	
cis-1,3-Dichloropropene	<0.0001500	50.00	45.36	91	25-175	ug/L	
Toluene	0.03000	50.00	44.81	90	70-130	ug/L	
trans-1,3-dichloropropene	<0.0001500	50.00	44.67	89	50-150	ug/L	
1,1,2-Trichloroethane	<0.0002600	50.00	47.96	96	70-130	ug/L	
Tetrachloroethylene	0.06000	50.00	43.88	88	70-130	ug/L	
Dibromochloromethane	<0.0001800	50.00	50.38	101	70-135	ug/L	
Chlorobenzene	<0.0002300	50.00	47.01	94	65-135	ug/L	
Ethylbenzene	0.04000	50.00	48.02	96	60-140	ug/L	
Bromoform	<0.0001700	50.00	47.17	94	70-130	ug/L	
1,1,2,2-Tetrachloroethane	<0.0002700	50.00	50.75	102	60-140	ug/L	
1,3-Dichlorobenzene	0.1200	50.00	49.79	100	70-130	ug/L	
1,4-Dichlorobenzene	<0.0002600	50.00	48.64	97	65-135	ug/L	
1,2-Dichlorobenzene	0.1000	50.00	50.38	101	65-135	ug/L	
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	
Dibromofluoromethane	102		100		94-108	%	
4-Bromofluorobenzene	112		100		77-120	%	
Toluene-D8	100		99		95-104	%	

Project Name Kop-Flex
PSS Project No.: 24040405

Analytical Method: SW-846 8260 D

Seq Number: 211703

Matrix: Water

Prep Method: SW5030B

Date Prep: 04/05/24

MB Sample ID: 99597-1-BLK

LCS Sample ID: 99597-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acetone	<1.500	50.00	53.85	108	49-154	ug/L	
Benzene	<0.1900	50.00	45.35	91	76-112	ug/L	
Bromochloromethane	<0.2800	50.00	45.66	91	74-119	ug/L	
Bromodichloromethane	<0.1800	50.00	47.75	96	78-117	ug/L	
Bromoform	<0.1700	50.00	47.17	94	69-123	ug/L	
Bromomethane	<0.6000	50.00	50.08	100	42-118	ug/L	
2-Butanone (MEK)	<1.300	50.00	50.70	101	55-136	ug/L	
Carbon Disulfide	<0.3500	50.00	45.04	90	80-124	ug/L	
Carbon tetrachloride	<0.2200	50.00	45.13	90	77-119	ug/L	
Chlorobenzene	<0.2300	50.00	47.01	94	76-114	ug/L	
Chloroethane	<0.2300	50.00	42.43	85	61-113	ug/L	
Chloroform	<0.2100	50.00	44.84	90	75-113	ug/L	
Chloromethane	<0.3300	50.00	50.42	101	41-148	ug/L	
Cyclohexane	<0.3200	50.00	47.50	95	76-135	ug/L	
1,2-Dibromo-3-chloropropane	<0.1900	50.00	51.79	104	52-131	ug/L	
Dibromochloromethane	<0.1800	50.00	50.38	101	79-121	ug/L	
1,2-Dibromoethane	<0.2200	50.00	47.29	95	77-119	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	50.38	101	75-121	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	49.79	100	77-120	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	52.74	105	49-122	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	48.64	97	76-118	ug/L	
1,1-Dichloroethane	<0.1900	50.00	44.28	89	75-118	ug/L	
1,2-Dichloroethane	<0.1800	50.00	45.29	91	72-115	ug/L	
cis-1,2-Dichloroethene	<0.1900	50.00	44.78	90	75-119	ug/L	
1,1-Dichloroethene	<0.1800	50.00	42.83	86	74-119	ug/L	
1,2-Dichloropropane	<0.1700	50.00	47.05	94	76-115	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	45.36	91	83-122	ug/L	
trans-1,3-Dichloropropene	<0.1500	50.00	44.67	89	76-118	ug/L	
trans-1,2-Dichloroethene	<0.2900	50.00	44.32	89	73-121	ug/L	
Ethylbenzene	<0.1500	50.00	48.02	96	78-118	ug/L	
2-Hexanone (MBK)	<0.8300	50.00	52.44	105	55-136	ug/L	
Isopropylbenzene	<0.2700	50.00	49.83	100	76-126	ug/L	
Methyl Acetate	<0.5000	50.00	46.50	93	61-117	ug/L	
Methylcyclohexane	<0.1400	50.00	46.37	93	82-126	ug/L	
Methylene chloride	<0.3400	50.00	45.44	91	75-113	ug/L	
4-Methyl-2-Pentanone (MIBK)	<0.6000	50.00	49.77	100	57-127	ug/L	
Methyl-t-Butyl Ether	<0.1700	50.00	43.98	88	71-114	ug/L	
Naphthalene	<0.6000	50.00	44.67	89	60-122	ug/L	
Styrene	<0.1700	50.00	49.36	99	81-124	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	50.75	102	66-123	ug/L	
Tetrachloroethene	<0.2300	50.00	43.88	88	76-123	ug/L	
Toluene	<0.5200	50.00	44.81	90	77-112	ug/L	
1,2,3-Trichlorobenzene	<0.3000	50.00	52.87	106	73-129	ug/L	
1,2,4-Trichlorobenzene	<0.2600	50.00	51.09	102	73-130	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	43.08	86	79-118	ug/L	
Trichloroethene	<0.1900	50.00	45.20	90	77-112	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	47.96	96	75-115	ug/L	
Trichlorofluoromethane	<0.1700	50.00	45.72	91	74-125	ug/L	
1,1,2-Trichlorotrifluoroethane	<0.1700	50.00	43.66	87	77-123	ug/L	
Vinyl chloride	<0.3400	50.00	63.00	126	53-151	ug/L	
m&p-Xylene	<0.4000	100	96.30	96	79-121	ug/L	

QC Summary

Project Name Kop-Flex
PSS Project No.: 24040405

Analytical Method: SW-846 8260 D

Seq Number: 211703

MB Sample ID: 99597-1-BLK

Matrix: Water

LCS Sample ID: 99597-1-BKS

Prep Method: SW5030B

Date Prep: 04/05/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
o-Xylene	<0.1800	50.00	48.19	96	78-122	ug/L	
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	
4-Bromofluorobenzene	112		100		88-120	%	
Dibromofluoromethane	102		100		92-107	%	
Toluene-D8	100		99		95-106	%	

Project Name Kop-Flex

PSS Project No.: 24040405

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 210552

Analyzed Date: 02/21/24 11:47

Parameter	ICV %Rec	Limits	Flag
1,4-Dioxane	105	54-145	
Surrogate		Limits	Flag
Dibromofluoromethane	99	94-108	
4-Bromofluorobenzene	99	77-120	
Toluene-D8	99	95-104	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 210950

Analyzed Date: 02/26/24 11:52

Parameter	ICV %Rec	Limits	Flag
Acrolein	84	60-140	
Acrylonitrile	89	60-140	
Dichlorodifluoromethane	97	51-128	
Chloromethane	96	1-205	
Vinyl Chloride	76	5-195	
Bromomethane	91	15-185	
Chloroethane	90	40-160	
Trichlorofluoromethane	90	50-150	
2-Chloroethyl Vinyl Ether	81	1-225	
1,1-Dichloroethene	90	50-150	
Methylene Chloride	93	60-140	
trans-1,2-dichloroethene	92	70-130	
1,1-Dichloroethane	92	70-130	
Chloroform	90	70-135	
1,1,1-Trichloroethane	93	70-130	
Carbon Tetrachloride	94	70-130	
Benzene	92	65-135	
1,2-Dichloroethane	91	70-130	
Trichloroethene	92	65-135	
1,2-Dichloropropane	92	35-165	
Bromodichloromethane	94	65-135	
cis-1,3-Dichloropropene	92	25-175	
Toluene	92	70-130	
trans-1,3-dichloropropene	91	50-150	
1,1,2-Trichloroethane	91	70-130	
Tetrachloroethylene	93	70-130	
Dibromochloromethane	96	70-135	
Chlorobenzene	92	65-135	
Ethylbenzene	95	60-140	
Bromoform	87	70-130	
1,1,2,2-Tetrachloroethane	88	60-140	
1,3-Dichlorobenzene	94	70-130	
1,4-Dichlorobenzene	93	65-135	
1,2-Dichlorobenzene	94	65-135	
Surrogate		Limits	Flag
Dibromofluoromethane	100	94-108	
4-Bromofluorobenzene	98	77-120	
Toluene-D8	100	95-104	

Analytical Method: SW-846 8260 D

CCV Sample Id: CCV-01 Seq Number: 211703

Analyzed Date: 04/05/24 09:44

Parameter	CCV %Rec	Limits	Flag
Acetone	108	80-120	
Benzene	91	80-120	
Bromochloromethane	91	80-120	
Bromodichloromethane	96	80-120	

Project Name Kop-Flex
PSS Project No.: 24040405

Analytical Method: SW-846 8260 D

CCV Sample Id: CCV-01 Seq Number: 211703
Analyzed Date: 04/05/24 09:44

Parameter	CCV %Rec	Limits	Flag
Bromoform	94	80-120	
Bromomethane	100	80-120	
2-Butanone (MEK)	101	80-120	
Carbon Disulfide	90	80-120	
Carbon tetrachloride	90	80-120	
Chlorobenzene	94	80-120	
Chloroethane	85	80-120	
Chloroform	90	80-120	
Chloromethane	101	80-120	
Cyclohexane	95	80-120	
1,2-Dibromo-3-chloropropane	104	80-120	
Dibromochloromethane	101	80-120	
1,2-Dibromoethane	95	80-120	
1,2-Dichlorobenzene	101	80-120	
1,3-Dichlorobenzene	100	80-120	
Dichlorodifluoromethane	105	80-120	
1,4-Dichlorobenzene	97	80-120	
1,1-Dichloroethane	89	80-120	
1,2-Dichloroethane	91	80-120	
cis-1,2-Dichloroethene	90	80-120	
1,1-Dichloroethene	86	80-120	
1,2-Dichloropropane	94	80-120	
cis-1,3-Dichloropropene	91	80-120	
trans-1,3-Dichloropropene	89	80-120	
trans-1,2-Dichloroethene	89	80-120	
Ethylbenzene	96	80-120	
2-Hexanone (MBK)	105	80-120	
Isopropylbenzene	100	80-120	
Methyl Acetate	93	80-120	
Methylcyclohexane	93	80-120	
Methylene chloride	91	80-120	
4-Methyl-2-Pentanone (MIBK)	100	80-120	
Methyl-t-Butyl Ether	88	80-120	
Naphthalene	89	80-120	
Styrene	99	80-120	
1,1,2,2-Tetrachloroethane	102	80-120	
Tetrachloroethene	88	80-120	
Toluene	90	80-120	
1,2,3-Trichlorobenzene	106	80-120	
1,2,4-Trichlorobenzene	102	80-120	
1,1,1-Trichloroethane	86	80-120	
Trichloroethene	90	80-120	
1,1,2-Trichloroethane	96	80-120	
Trichlorofluoromethane	91	80-120	
1,1,2-Trichlorotrifluoroethane	87	80-120	
Vinyl chloride	126	80-120	X
m&p-Xylene	96	80-120	
o-Xylene	96	80-120	

Surrogate	Limits	Flag
-----------	--------	------

Project Name Kop-Flex

PSS Project No.: 24040405

Analytical Method: SW-846 8260 D

CCV Sample Id: CCV-01 Seq Number: 211703

Analyzed Date: 04/05/24 09:44

Surrogate		Limits	Flag
4-Bromofluorobenzene	100	80-120	
Dibromofluoromethane	100	80-120	
Toluene-D8	99	80-120	

Analytical Method: SW-846 8260 D

Parent Sample Id: ICV-01 Seq Number: 210677

Analyzed Date: 02/26/24 11:52

Parameter	ICV %Rec	Limits	Flag
Acetone	107	70-130	
Benzene	92	70-130	
Bromochloromethane	93	70-130	
Bromodichloromethane	94	70-130	
Bromoform	87	70-130	
Bromomethane	91	70-130	
2-Butanone (MEK)	101	70-130	
Carbon Disulfide	95	70-130	
Carbon tetrachloride	94	70-130	
Chlorobenzene	92	70-130	
Chloroethane	90	70-130	
Chloroform	90	70-130	
Chloromethane	96	70-130	
Cyclohexane	93	70-130	
1,2-Dibromo-3-chloropropane	92	70-130	
Dibromochloromethane	96	70-130	
1,2-Dibromoethane	93	70-130	
1,2-Dichlorobenzene	94	70-130	
1,3-Dichlorobenzene	94	70-130	
Dichlorodifluoromethane	97	70-130	
1,4-Dichlorobenzene	93	70-130	
1,1-Dichloroethane	92	70-130	
1,2-Dichloroethane	91	70-130	
cis-1,2-Dichloroethene	93	70-130	
1,1-Dichloroethene	90	70-130	
1,2-Dichloropropane	92	70-130	
cis-1,3-Dichloropropene	92	70-130	
trans-1,3-Dichloropropene	91	70-130	
trans-1,2-Dichloroethene	92	70-130	
Ethylbenzene	95	70-130	
2-Hexanone (MBK)	99	70-130	
Isopropylbenzene	97	70-130	
Methyl Acetate	94	70-130	
Methylcyclohexane	93	70-130	
Methylene chloride	93	70-130	
4-Methyl-2-Pentanone (MIBK)	92	70-130	
Methyl-t-Butyl Ether	95	70-130	
Naphthalene	91	70-130	
Styrene	100	70-130	
1,1,2,2-Tetrachloroethane	88	70-130	
Tetrachloroethene	93	70-130	

Project Name Kop-Flex
PSS Project No.: 24040405

Analytical Method: SW-846 8260 D

Parent Sample Id: ICV-01 Seq Number: 210677

Analyzed Date: 02/26/24 11:52

Parameter	ICV %Rec	Limits	Flag
Toluene	92	70-130	
1,2,3-Trichlorobenzene	104	70-130	
1,2,4-Trichlorobenzene	104	70-130	
1,1,1-Trichloroethane	93	70-130	
Trichloroethene	92	70-130	
1,1,2-Trichloroethane	91	70-130	
Trichlorofluoromethane	90	70-130	
1,1,2-Trichlorotrifluoroethane	88	70-130	
Vinyl chloride	76	70-130	
m&p-Xylene	96	70-130	
o-Xylene	95	70-130	

Surrogate		Limits	Flag
4-Bromofluorobenzene	98	70-130	
Dibromofluoromethane	100	70-130	
Toluene-D8	100	70-130	

**PHASE
SEPARATION
SCIENCE**

CHAIN OF CUSTODY FORM

All fields must be completed accurately. Shaded sections for lab use only.

www.phaseonline.com ~ info@phaseonline.com

6630 Baltimore National Pike • Suite 103-A • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047

① PSS CLIENT: WSP USA		OFFICE LOCATION: Herndon, VA		PSS Work Order #: 24090405				PAGE 1 OF 1												
BILL TO (if different):		PHONE #: 703-709-6500		Matrix Codes: SW=Surface Water DW=Drinking Water GW=Ground Water WW=Waste Water O=Oil S=Soil SOL=Solid A=Air WI=Wipe																
CONTACT: Eric Johnson		EMAIL: eric.johnson@wsp.com		# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes								Preservative Codes 1 - HCL 2 - H ₂ SO ₄ 3 - HNO ₃ 4 - NaOH 5 - E624KIT 6 - ICE 7 - Sodium Thiosulfate 8 - Ascorbic Acid 9 - TerraCore Kit						
PROJECT NAME: Kop-Flex		PROJECT #: 31403608.010/02.02				Analysis/Method Required														
SITE LOCATION: Hanover, MD		P.O. #:				③														
SAMPLER(S):		DW CERT #:				<div style="display: flex; justify-content: space-around;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">VOCS (8260)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">14-dioxane (624.1)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">VOCS (624.1)</div> </div>														
② PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB														
1	Influent VSP-1	4/14/24	0915	GW	6	G	X	X												
2	Trip blank-040424	—		TB	4	—		X	X											
⑤ Relinquished By: (1)		Date	Time	Received By:	④ Requested TAT (One TAT per COC)				Ice Present: Pres											
<i>Shan Boyle</i>		4/14/24	1015	<i>[Signature]</i>	<input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input checked="" type="checkbox"/> Other				Custody Seal: Cooler / Unfaint											
Relinquished By: (2)		Date	Time	Received By:	STATE RESULTS REPORTED TO:				# Coolers: 1 Temp: 2.0 - 3.6 °C											
<i>[Signature]</i>		4/14/24	1030	<i>[Signature]</i>	<input type="checkbox"/> MD <input type="checkbox"/> DE <input type="checkbox"/> PA <input type="checkbox"/> VA <input type="checkbox"/> WV <input type="checkbox"/> OTHER				Shipping Carrier: TRE											
Relinquished By: (3)		Date	Time	Received By:	COMPLIANCE?		Special Instructions:													
					<input type="checkbox"/> DW <input type="checkbox"/> WW		Standard 10-day TAT Temp Blank: 1.8 °C													
Relinquished By: (4)		Date	Time	Received By:	EDD FORMAT TYPE															

This chain of custody is a legal document. The client (PSS Client), by signing, or having client's agent sign, this "Chain of Custody Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

Sample Receipt Checklist

Project Name: Kop-Flex
 PSS Project No.: 24040405

Client Name WSP USA - Herndon
Disposal Date 05/09/2024

Received By Tyler Enwright
Date Received 04/04/2024 10:38 AM
Delivered By Trans Time Express
Tracking # Not Applicable
Logged In By Tyler Enwright

Shipping Container(s)

of Coolers 1

Custody Seal(s) Intact? Yes
 Seal(s) Signed / Dated? Yes

Ice Present
 Temp (°C) 3.6
 Temp Blank Present Yes

Documentation

COC agrees with sample labels? Yes
 Chain of Custody Yes

Sampler Name Not Provided
N/A

Sample Container

Appropriate for Specified Analysis? Yes
 Intact? Yes
 Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
 Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? Yes

Total # of Samples Received 2
 Total # of Containers Received 10

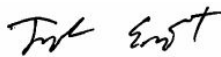
Preservation

Total Metals (pH<2) N/A
 Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
 Orthophosphorus, filtered within 15 minutes of collection N/A
 Cyanides (pH>12) N/A
 Sulfide (pH>9) N/A
 TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
 TOX, TKN, NH3, Total Phos (pH<2) N/A
 VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) Yes
 Do VOA vials have zero headspace? Yes
 624 VOC (Rcvd at least one unpreserved VOA vial) N/A
 524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, the sample ID, preservative added, documentation of any client notification, and subsequent client instructions are noted below. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C, and <=4°C for EPA 524. Samples that are received by the lab on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that thermal preservation has begun.

Samples Inspected/Checklist Completed By:



Tyler Enwright

Date: 04/04/2024

PM Review and Approval:



Amber Confer
 Page 20 of 20

Date: 04/04/2024

Project Name: Kop-Flex
PSS Project No.: 24051311

May 28, 2024

Eric Johnson
WSP USA - Herndon
13530 Dulles Technology Dr, Ste 300
Herndon, VA 20171



Reference: PSS Project No: **24051311**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 31405608.010-0202

Dear Eric Johnson:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24051311**.


All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on June 17, 2024, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,


Dan Prucnal

Laboratory Manager



Sample Summary

Project Name: Kop-Flex

PSS Project No.: 24051311

The following samples were received under chain of custody by Phase Separation Science (PSS) on 05/13/2024 at 02:05 pm
 Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any
 sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24051311-001	Effluent VSP-4	GROUND WATER	05/13/24 07:50
24051311-002	Trip Blanks	WATER	05/13/24 00:00

Report Information

Project Name: Kop-Flex
PSS Project No.: 24051311

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24051311

Sample ID: Effluent VSP-4 **Date/Time Sampled: 05/13/2024 07:50** **PSS Sample ID: 24051311-001**
Matrix: GROUND WATER **Date/Time Received: 05/13/2024 14:05**

Total Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Copper	6.4	ug/L	1.0		1	0.98	05/15/24	05/15/24 18:19	1064
Lead	ND	ug/L	1.0		1	0.66	05/15/24	05/15/24 18:19	1064
Nickel	22.0	ug/L	1.00		1	0.95	05/15/24	05/16/24 17:20	1059
Zinc	37.1	ug/L	20.0		1	7.1	05/15/24	05/15/24 18:19	1064

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	2.0	ug/L	1.0		1	1	05/25/24	05/25/24 09:50	1011
Surrogate(s)	Recovery		Limits						
Dibromofluoromethane	106	%	94-108		1		05/25/24	05/25/24 09:50	1011
4-Bromofluorobenzene	94	%	77-120		1		05/25/24	05/25/24 09:50	1011
Toluene-D8	102	%	95-104		1		05/25/24	05/25/24 09:50	1011

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 212707 on Case Narrative.

pH=6

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	05/14/24	05/14/24 10:27	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	05/14/24	05/14/24 10:27	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	05/14/24	05/14/24 10:27	1011
Chloromethane	ND	ug/L	1.0		1	0.33	05/14/24	05/14/24 10:27	1011
Vinyl Chloride	ND	ug/L	1.0		1	0.34	05/14/24	05/14/24 10:27	1011
Bromomethane	ND	ug/L	1.0		1	0.6	05/14/24	05/14/24 10:27	1011
Chloroethane	ND	ug/L	1.0		1	0.23	05/14/24	05/14/24 10:27	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	05/14/24	05/14/24 10:27	1011
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	05/14/24	05/14/24 10:27	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	05/14/24	05/14/24 10:27	1011
Methylene Chloride	ND	ug/L	1.0		1	0.34	05/14/24	05/14/24 10:27	1011
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	05/14/24	05/14/24 10:27	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	05/14/24	05/14/24 10:27	1011
Chloroform	ND	ug/L	1.0		1	0.21	05/14/24	05/14/24 10:27	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	05/14/24	05/14/24 10:27	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	05/14/24	05/14/24 10:27	1011
Benzene	ND	ug/L	1.0		1	0.19	05/14/24	05/14/24 10:27	1011

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24051311

Sample ID: Effluent VSP-4 **Date/Time Sampled: 05/13/2024 07:50** **PSS Sample ID: 24051311-001**
Matrix: GROUND WATER **Date/Time Received: 05/13/2024 14:05**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 212707 on Case Narrative.

pH=6

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	05/14/24	05/14/24 10:27	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	05/14/24	05/14/24 10:27	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	05/14/24	05/14/24 10:27	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	05/14/24	05/14/24 10:27	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	05/14/24	05/14/24 10:27	1011
Toluene	ND	ug/L	1.0		1	0.52	05/14/24	05/14/24 10:27	1011
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	05/14/24	05/14/24 10:27	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	05/14/24	05/14/24 10:27	1011
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	05/14/24	05/14/24 10:27	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	05/14/24	05/14/24 10:27	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	05/14/24	05/14/24 10:27	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	05/14/24	05/14/24 10:27	1011
Bromoform	ND	ug/L	1.0		1	0.17	05/14/24	05/14/24 10:27	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	05/14/24	05/14/24 10:27	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	05/14/24	05/14/24 10:27	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	05/14/24	05/14/24 10:27	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	05/14/24	05/14/24 10:27	1011
Surrogate(s) Recovery Limits									
<i>Dibromofluoromethane</i>	105	%	94-108		1		05/14/24	05/14/24 10:27	1011
<i>4-Bromofluorobenzene</i>	111	%	77-120		1		05/14/24	05/14/24 10:27	1011
<i>Toluene-D8</i>	101	%	95-104		1		05/14/24	05/14/24 10:27	1011

Total Suspended Solids Analytical Method: SM 2540D -2015

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Total Suspended Solids	1.7	mg/L	2.1	J	1	0.84	05/20/24	05/20/24 08:25	1073

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24051311

Sample ID: Trip Blanks **Date/Time Sampled: 05/13/2024 00:00** **PSS Sample ID: 24051311-002**
Matrix: WATER **Date/Time Received: 05/13/2024 14:05**

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	05/25/24	05/25/24 10:12	1011
Surrogate(s)	Recovery		Limits						
Dibromofluoromethane	106	%	94-108		1		05/25/24	05/25/24 10:12	1011
4-Bromofluorobenzene	99	%	77-120		1		05/25/24	05/25/24 10:12	1011
Toluene-D8	100	%	95-104		1		05/25/24	05/25/24 10:12	1011

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 212707 on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	05/14/24	05/14/24 10:49	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	05/14/24	05/14/24 10:49	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	05/14/24	05/14/24 10:49	1011
Chloromethane	ND	ug/L	1.0		1	0.33	05/14/24	05/14/24 10:49	1011
Vinyl Chloride	ND	ug/L	1.0		1	0.34	05/14/24	05/14/24 10:49	1011
Bromomethane	ND	ug/L	1.0		1	0.6	05/14/24	05/14/24 10:49	1011
Chloroethane	ND	ug/L	1.0		1	0.23	05/14/24	05/14/24 10:49	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	05/14/24	05/14/24 10:49	1011
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	05/14/24	05/14/24 10:49	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	05/14/24	05/14/24 10:49	1011
Methylene Chloride	ND	ug/L	1.0		1	0.34	05/14/24	05/14/24 10:49	1011
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	05/14/24	05/14/24 10:49	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	05/14/24	05/14/24 10:49	1011
Chloroform	ND	ug/L	1.0		1	0.21	05/14/24	05/14/24 10:49	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	05/14/24	05/14/24 10:49	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	05/14/24	05/14/24 10:49	1011
Benzene	ND	ug/L	1.0		1	0.19	05/14/24	05/14/24 10:49	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	05/14/24	05/14/24 10:49	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	05/14/24	05/14/24 10:49	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	05/14/24	05/14/24 10:49	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	05/14/24	05/14/24 10:49	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	05/14/24	05/14/24 10:49	1011
Toluene	ND	ug/L	1.0		1	0.52	05/14/24	05/14/24 10:49	1011
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	05/14/24	05/14/24 10:49	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	05/14/24	05/14/24 10:49	1011

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24051311

Sample ID: Trip Blanks **Date/Time Sampled: 05/13/2024 00:00** **PSS Sample ID: 24051311-002**
Matrix: WATER **Date/Time Received: 05/13/2024 14:05**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 212707 on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	05/14/24	05/14/24 10:49	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	05/14/24	05/14/24 10:49	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	05/14/24	05/14/24 10:49	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	05/14/24	05/14/24 10:49	1011
Bromoform	ND	ug/L	1.0		1	0.17	05/14/24	05/14/24 10:49	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	05/14/24	05/14/24 10:49	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	05/14/24	05/14/24 10:49	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	05/14/24	05/14/24 10:49	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	05/14/24	05/14/24 10:49	1011
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	103 %		94-108		1		05/14/24	05/14/24 10:49	1011
<i>4-Bromofluorobenzene</i>	110 %		77-120		1		05/14/24	05/14/24 10:49	1011
<i>Toluene-D8</i>	102 %		95-104		1		05/14/24	05/14/24 10:49	1011

Case Narrative

Project Name: Kop-Flex

PSS Project No.: 24051311

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

Received Trip Blanks that were not on the COC. Logged in for 624 and 1,4 dioxane.

Analytical:

Volatile Organics Compounds

Batch: 212707

Matrix spike/matrix spike duplicate (MS/MSD) Relative Percent Difference (RPD) exceedances identified; see QC summary.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

EPA 624 .1: 1,4-Dioxane

Lab Chronology

Project Name: Kop-Flex
 PSS Project No.: 24051311

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 200.8	24051311-001	223	Initial	W	100193	212778	05/15/2024 12:05	05/15/2024 18:19
	100193-1-BKS		BKS	W	100193	212778	05/15/2024 12:05	05/15/2024 17:45
	100193-1-BLK		BLK	W	100193	212778	05/15/2024 12:05	05/15/2024 17:40
	24051303-001 S	190	MS	W	100193	212778	05/15/2024 12:05	05/15/2024 17:55
	24051303-001 SD	190	MSD	W	100193	212778	05/15/2024 12:05	05/15/2024 18:15
	100193-1-BKS		Reanalysis	W	100193	212824	05/15/2024 12:05	05/16/2024 17:15
	100193-1-BLK		Reanalysis	W	100193	212824	05/15/2024 12:05	05/16/2024 17:10
	24051311-001	223	Reanalysis	W	100193	212824	05/15/2024 12:05	05/16/2024 17:20
EPA 624 .1	24051311-001	224	Initial	W	100171	212707	05/14/2024 06:51	05/14/2024 10:27
	24051311-002	230	Initial	W	100171	212707	05/14/2024 06:51	05/14/2024 10:49
	100171-1-BKS		BKS	W	100171	212707	05/14/2024 06:51	05/14/2024 07:13
	100171-1-BLK		BLK	W	100171	212707	05/14/2024 06:51	05/14/2024 08:18
	24051311-001 S	225	MS	W	100171	212707	05/14/2024 06:51	05/14/2024 11:54
	24051311-001 SD	225	MSD	W	100171	212707	05/14/2024 06:51	05/14/2024 12:15
EPA 624 .1	24051311-001	227	Initial	W	100369	213087	05/25/2024 07:50	05/25/2024 09:50
	24051311-002	231	Initial	W	100369	213087	05/25/2024 07:50	05/25/2024 10:12
	100369-1-BKS		BKS	W	100369	213087	05/25/2024 07:50	05/25/2024 08:12
	100369-1-BLK		BLK	W	100369	213087	05/25/2024 07:50	05/25/2024 09:29
	100369-1-BSD		BSD	W	100369	213087	05/25/2024 07:50	05/25/2024 08:46
	24051311-001 S	228	MS	W	100369	213087	05/25/2024 07:50	05/25/2024 10:33
	24051311-001 SD	228	MSD	W	100369	213087	05/25/2024 07:50	05/25/2024 10:55
SM 2540D -2015	24051311-001	222	Initial	W	212854	212854	05/20/2024 08:25	05/20/2024 08:25
	212854-1-BKS		BKS	W	212854	212854	05/20/2024 08:25	05/20/2024 08:25
	212854-1-BLK		BLK	W	212854	212854	05/20/2024 08:25	05/20/2024 08:25
	24051311-001 D	222	MD	W	212854	212854	05/20/2024 08:25	05/20/2024 08:25
	24051520-001 D	859	MD	W	212854	212854	05/20/2024 08:25	05/20/2024 08:25

QC Summary

Project Name Kop-Flex
PSS Project No.: 24051311

Analytical Method: SM 2540D -2015

Seq Number: 212854 Matrix: Water
MB Sample ID: 212854-1-BLK LCS Sample ID: 212854-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Total Suspended Solids	<0.4000	104.8	101.9	97	86-110	mg/L	

Analytical Method: SM 2540D -2015

Seq Number: 212854 Matrix: Ground Water
Parent Sample ID: 24051311-001 MD Sample ID: 24051311-001 D

Parameter	Parent Result	MD Result	RPD	RPD Limit	Units	Flag
Total Suspended Solids	1.684	1.474	13	19	mg/L	J

Analytical Method: EPA 200.8

Seq Number: 212778 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 100193-1-BLK LCS Sample ID: 100193-1-BKS Date Prep: 05/15/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Copper	<0.9800	50.00	50.10	100	85-115	ug/L	
Lead	<0.6600	50.00	48.59	97	85-115	ug/L	
Zinc	<7.100	100	98.72	99	85-115	ug/L	

Analytical Method: EPA 200.8

Seq Number: 212824 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 100193-1-BLK LCS Sample ID: 100193-1-BKS Date Prep: 05/15/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Nickel	<0.9500	50.00	51.34	103	85-115	ug/L	

Analytical Method: EPA 624 .1

Seq Number: 213087 Matrix: Water Prep Method: E624PREP
MB Sample ID: 100369-1-BLK LCS Sample ID: 100369-1-BKS Date Prep: 05/25/24
LCSD Sample ID: 100369-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<26.00	30.00	33.02	110	30.00	100	54-145	10	20	ug/L	
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units			
Dibromofluoromethane	106		104		101		94-108	%			
4-Bromofluorobenzene	98		97		96		77-120	%			
Toluene-D8	102		99		100		95-104	%			

Project Name Kop-Flex

PSS Project No.: 24051311

Analytical Method: EPA 624 .1

Seq Number: 212707

Matrix: Water

Prep Method: E624PREP

Date Prep: 05/14/24

MB Sample ID: 100171-1-BLK

LCS Sample ID: 100171-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acrolein	<0.001700	50.00	56.17	112	60-140	ug/L	
Acrylonitrile	<0.001500	50.00	62.24	124	60-140	ug/L	
Dichlorodifluoromethane	<0.0002300	50.00	48.85	98	51-128	ug/L	
Chloromethane	0.1200	50.00	39.61	79	1-205	ug/L	
Vinyl Chloride	<0.0003400	50.00	44.12	88	5-195	ug/L	
Bromomethane	0.08000	50.00	51.51	103	15-185	ug/L	
Chloroethane	<0.0002300	50.00	56.13	112	40-160	ug/L	
Trichlorofluoromethane	0.03000	50.00	52.49	105	50-150	ug/L	
2-Chloroethyl Vinyl Ether	<0.001000	50.00	23.10	46	1-225	ug/L	
1,1-Dichloroethene	<0.0001800	50.00	51.13	102	50-150	ug/L	
Methylene Chloride	<0.0003400	50.00	54.30	109	60-140	ug/L	
trans-1,2-dichloroethene	<0.0002900	50.00	51.96	104	70-130	ug/L	
1,1-Dichloroethane	<0.0001900	50.00	50.22	100	70-130	ug/L	
Chloroform	0.1100	50.00	50.52	101	70-135	ug/L	
1,1,1-Trichloroethane	<0.0001600	50.00	52.04	104	70-130	ug/L	
Carbon Tetrachloride	<0.0002200	50.00	55.49	111	70-130	ug/L	
Benzene	<0.0001900	50.00	52.43	105	65-135	ug/L	
1,2-Dichloroethane	<0.0001800	50.00	52.77	106	70-130	ug/L	
Trichloroethene	<0.0001900	50.00	52.69	105	65-135	ug/L	
1,2-Dichloropropane	<0.0001700	50.00	53.08	106	35-165	ug/L	
Bromodichloromethane	<0.0001800	50.00	55.78	112	65-135	ug/L	
cis-1,3-Dichloropropene	<0.0001500	50.00	59.55	119	25-175	ug/L	
Toluene	0.05000	50.00	53.28	107	70-130	ug/L	
trans-1,3-dichloropropene	<0.0001500	50.00	54.05	108	50-150	ug/L	
1,1,2-Trichloroethane	<0.0002600	50.00	55.20	110	70-130	ug/L	
Tetrachloroethylene	0.07000	50.00	52.50	105	70-130	ug/L	
Dibromochloromethane	<0.0001800	50.00	59.49	119	70-135	ug/L	
Chlorobenzene	<0.0002300	50.00	54.18	108	65-135	ug/L	
Ethylbenzene	0.04000	50.00	56.31	113	60-140	ug/L	
Bromoform	<0.0001700	50.00	64.28	129	70-130	ug/L	
1,1,2,2-Tetrachloroethane	<0.0002700	50.00	57.89	116	60-140	ug/L	
1,3-Dichlorobenzene	0.1400	50.00	54.51	109	70-130	ug/L	
1,4-Dichlorobenzene	<0.0002600	50.00	52.81	106	65-135	ug/L	
1,2-Dichlorobenzene	0.1100	50.00	56.03	112	65-135	ug/L	
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	
Dibromofluoromethane	103		100		94-108	%	
4-Bromofluorobenzene	109		100		77-120	%	
Toluene-D8	103		100		95-104	%	

Project Name Kop-Flex
PSS Project No.: 24051311

Analytical Method: EPA 624 .1

Seq Number: 212707

Parent Sample ID: 24051311-001

Matrix: Ground Water

MS Sample ID: 24051311-001 S

Prep Method: E624PREP

Date Prep: 05/14/24

MSD Sample ID: 24051311-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acrolein	<1.700	50.00	45.41	91	41.70	83	40-160	9	60	ug/L	
Acrylonitrile	<1.500	50.00	45.75	92	43.32	87	40-160	5	60	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	46.17	92	39.04	78	49-132	17	14	ug/L	F
Chloromethane	<0.3300	50.00	39.42	79	32.29	65	1-273	20	60	ug/L	
Vinyl Chloride	<0.3400	50.00	43.65	87	35.31	71	1-251	21	66	ug/L	
Bromomethane	<0.6000	50.00	50.02	100	44.32	89	1-242	12	61	ug/L	
Chloroethane	<0.2300	50.00	52.28	105	44.18	88	14-230	17	78	ug/L	
Trichlorofluoromethane	<0.1700	50.00	48.97	98	42.76	86	17-181	14	84	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	14.16	28	16.65	33	1-305	16	71	ug/L	
1,1-Dichloroethene	<0.1800	50.00	49.12	98	42.63	85	1-234	14	32	ug/L	
Methylene Chloride	<0.3400	50.00	49.17	98	45.04	90	1-221	9	28	ug/L	
trans-1,2-dichloroethene	<0.2900	50.00	49.91	100	44.76	90	54-156	11	45	ug/L	
1,1-Dichloroethane	<0.1900	50.00	47.21	94	43.20	86	59-155	9	40	ug/L	
Chloroform	<0.2100	50.00	47.28	95	43.47	87	51-138	8	54	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	47.98	96	44.34	89	52-162	8	36	ug/L	
Carbon Tetrachloride	<0.2200	50.00	50.99	102	46.20	92	70-140	10	41	ug/L	
Benzene	<0.1900	50.00	48.04	96	44.74	89	37-151	7	61	ug/L	
1,2-Dichloroethane	<0.1800	50.00	47.53	95	44.98	90	49-155	6	49	ug/L	
Trichloroethene	<0.1900	50.00	49.71	99	45.51	91	70-157	9	48	ug/L	
1,2-Dichloropropane	<0.1700	50.00	48.08	96	45.63	91	1-210	5	55	ug/L	
Bromodichloromethane	<0.1800	50.00	49.22	98	46.62	93	35-155	5	56	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	52.68	105	50.04	100	1-227	5	58	ug/L	
Toluene	<0.5200	50.00	49.22	98	44.89	90	47-150	9	41	ug/L	
trans-1,3-dichloropropene	<0.1500	50.00	46.57	93	44.89	90	17-183	4	86	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	48.61	97	46.23	92	52-150	5	45	ug/L	
Tetrachloroethylene	<0.2300	50.00	49.65	99	44.60	89	64-148	11	39	ug/L	
Dibromochloromethane	<0.1800	50.00	49.27	99	48.44	97	53-149	2	50	ug/L	
Chlorobenzene	<0.2300	50.00	47.86	96	45.25	91	37-160	6	53	ug/L	
Ethylbenzene	<0.1500	50.00	49.79	100	46.17	92	37-162	8	63	ug/L	
Bromoform	<0.1700	50.00	50.07	100	49.69	99	45-169	1	42	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	45.52	91	46.48	93	46-157	2	61	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	47.54	95	45.80	92	59-156	4	43	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	46.00	92	44.26	89	18-190	4	57	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	47.89	96	47.09	94	18-190	2	57	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	103		100		94-108	%
4-Bromofluorobenzene	97		100		77-120	%
Toluene-D8	102		100		95-104	%

QC Summary

Project Name Kop-Flex
PSS Project No.: 24051311

Analytical Method: EPA 624 .1

Seq Number: 213087

Parent Sample ID: 24051311-001

Matrix: Ground Water

MS Sample ID: 24051311-001 S

Prep Method: E624PREP

Date Prep: 05/25/24

MSD Sample ID: 24051311-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	1.980	30.00	27.45	85	26.77	83	59-145	3	18	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	103		103		94-108	%
4-Bromofluorobenzene	96		96		77-120	%
Toluene-D8	100		99		95-104	%

Project Name Kop-Flex

PSS Project No.: 24051311

Analytical Method: EPA 200.8

CCV Sample Id: CCV 3 Seq Number: 212778

Analyzed Date: 05/15/24 17:00

Parameter	CCV %Rec	Limits	Flag
Copper	100	85-115	
Lead	98	85-115	
Zinc	101	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 4 Seq Number: 212778

Analyzed Date: 05/15/24 18:05

Parameter	CCV %Rec	Limits	Flag
Copper	104	85-115	
Lead	96	85-115	
Zinc	105	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 5 Seq Number: 212778

Analyzed Date: 05/15/24 19:09

Parameter	CCV %Rec	Limits	Flag
Copper	104	85-115	
Lead	97	85-115	
Zinc	107	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 1 Seq Number: 212824

Analyzed Date: 05/16/24 17:42

Parameter	CCV %Rec	Limits	Flag
Nickel	107	85-115	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 212778

Analyzed Date: 05/15/24 12:05

Parameter	ICV %Rec	Limits	Flag
Copper	102	90-110	
Lead	98	90-110	
Zinc	101	90-110	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 212824

Analyzed Date: 05/16/24 16:43

Parameter	ICV %Rec	Limits	Flag
Nickel	100	90-110	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 210552

Analyzed Date: 02/21/24 11:47

Parameter	ICV %Rec	Limits	Flag
1,4-Dioxane	105	54-145	
Surrogate		Limits	Flag
Dibromofluoromethane	99	94-108	
4-Bromofluorobenzene	99	77-120	
Toluene-D8	99	95-104	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 212217

Analyzed Date: 04/26/24 09:32

Parameter	ICV %Rec	Limits	Flag
Acrolein	98	60-140	
Acrylonitrile	101	60-140	
Dichlorodifluoromethane	99	51-128	
Chloromethane	93	1-205	
Vinyl Chloride	93	5-195	

Project Name Kop-Flex
PSS Project No.: 24051311

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 212217
Analyzed Date: 04/26/24 09:32

Parameter	ICV %Rec	Limits	Flag
Bromomethane	94	15-185	
Chloroethane	95	40-160	
Trichlorofluoromethane	101	50-150	
2-Chloroethyl Vinyl Ether	91	1-225	
1,1-Dichloroethene	99	50-150	
Methylene Chloride	99	60-140	
trans-1,2-dichloroethene	101	70-130	
1,1-Dichloroethane	100	70-130	
Chloroform	97	70-135	
1,1,1-Trichloroethane	103	70-130	
Carbon Tetrachloride	105	70-130	
Benzene	101	65-135	
1,2-Dichloroethane	98	70-130	
Trichloroethene	101	65-135	
1,2-Dichloropropane	101	35-165	
Bromodichloromethane	103	65-135	
cis-1,3-Dichloropropene	113	25-175	
Toluene	101	70-130	
trans-1,3-dichloropropene	102	50-150	
1,1,2-Trichloroethane	99	70-130	
Tetrachloroethylene	103	70-130	
Dibromochloromethane	108	70-135	
Chlorobenzene	101	65-135	
Ethylbenzene	108	60-140	
Bromoform	112	70-130	
1,1,2,2-Tetrachloroethane	107	60-140	
1,3-Dichlorobenzene	108	70-130	
1,4-Dichlorobenzene	105	65-135	
1,2-Dichlorobenzene	108	65-135	
Surrogate		Limits	Flag
Dibromofluoromethane	99	94-108	
4-Bromofluorobenzene	102	77-120	
Toluene-D8	100	95-104	

**PHASE
SEPARATION
SCIENCE**

CHAIN OF CUSTODY FORM

All fields must be completed accurately. Shaded sections for lab use only.

www.phaseonline.com ~ info@phaseonline.com

6630 Baltimore National Pike • Suite 103-A • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047

PSS CLIENT: WSP USA		OFFICE LOCATION: Herndon, VA		PSS Work Order #: 24051311			PAGE 1 OF 1														
BILL TO (if different):		PHONE #: 703-709-6500		Matrix Codes: SW=Surface Water DW=Drinking Water GW=Ground Water WW=Waste Water O=Oil S=Soil SOL=Solid A=Air WI=Wipe																	
CONTACT: Eric Johnson		EMAIL: eric.johnson@wsp.com		# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes			Analysis/Method Required			Preservative Codes 1 - HCL 2 - H ₂ SO ₄ 3 - HNO ₃ 4 - NaOH 5 - E624KIT 6 - ICE 7 - Sodium Thiosulfate 8 - Ascorbic Acid 9 - TerraCore Kit									
PROJECT NAME: Kop Flex		PROJECT #: 31405600.010				VOCs by EPA 1.1			1.4 Dioxane by EPA 1.5				TSS			Total Metals 2009			Asbestos		
SITE LOCATION: Hanover, MD		P.O. #: 0202				6			3.6				3.6								
SAMPLER(S): Chuck Drevo S+S Tech		DW CERT #:																			
PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes			Analysis/Method Required			Preservative Codes								
1	Effluent VSP-4	5/13/24	0750	GW	6	G	X	X	X	X											
Relinquished By: (1)		Date: 5/13/24	Time: 1345	Received By:		Requested TAT (One TAT per COC) <input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input checked="" type="checkbox"/> Other			Ice Present: PNB			Custody Seal: Cooler/containt									
Relinquished By: (2)		Date: 5/13/24	Time: 2:05	Received By:		STATE RESULTS REPORTED TO: <input type="checkbox"/> MD <input type="checkbox"/> DE <input type="checkbox"/> PA <input type="checkbox"/> VA <input type="checkbox"/> WV <input type="checkbox"/> OTHER			# Coolers: 1 Temp: 2.8 - 5.5 °C			Shipping Carrier: TTE									
Relinquished By: (3)		Date	Time	Received By:		COMPLIANCE? <input type="checkbox"/> DW <input type="checkbox"/> WW			Special Instructions: Temp Blank: 4.8 °C												
Relinquished By: (4)		Date	Time	Received By:		EDD FORMAT TYPE			Standard 10-day TAT Metals = Cu, Pb, Ni, Zn												

This chain of custody is a legal document. The client (PSS Client), by signing, or having client's agent sign, this "Chain of Custody Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

Sample Receipt Checklist

Project Name: Kop-Flex
PSS Project No.: 24051311

Client Name WSP USA - Herndon
Disposal Date 06/17/2024

Received By Tyler Enwright
Date Received 05/13/2024 02:05 PM
Delivered By Trans Time Express
Tracking # Not Applicable
Logged In By Tyler Enwright

Shipping Container(s)

of Coolers 1

Custody Seal(s) Intact? Yes
Seal(s) Signed / Dated? Yes

Ice Present
Temp (°C) 5.5
Temp Blank Present Yes

Documentation

COC agrees with sample labels? Yes
Chain of Custody Yes

Sampler Name Chuck Drevo S+S Tech
MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes
Intact? Yes
Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? Yes

Total # of Samples Received 2
Total # of Containers Received 12

Preservation

Total Metals (pH<2) Yes
Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
Orthophosphorus, filtered within 15 minutes of collection N/A
Cyanides (pH>12) N/A
Sulfide (pH>9) N/A
TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
TOX, TKN, NH3, Total Phos (pH<2) N/A
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) Yes
Do VOA vials have zero headspace? Yes
624 VOC (Rcvd at least one unpreserved VOA vial) Yes
524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, the sample ID, preservative added, documentation of any client notification, and subsequent client instructions are noted below. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C, and <=4°C for EPA 524. Samples that are received by the lab on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that thermal preservation has begun.

Received Trip Blanks that were not on the COC. Logged in for 624 and 1,4 dioxane.

Samples Inspected/Checklist Completed By: Tyler Enwright
Tyler Enwright

Date: 05/13/2024

PM Review and Approval: Amber Confer
Amber Confer
Page 17 of 17

Date: 05/13/2024

Project Name: Kop-Flex
PSS Project No.: 24060719

June 21, 2024

Eric Johnson
WSP USA - Herndon
13530 Dulles Technology Dr, Ste 300
Herndon, VA 20171

Reference: PSS Project No: **24060719**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 31405608.010/02



Dear Eric Johnson:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24060719**.

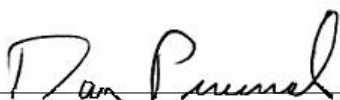
All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on July 12, 2024, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,


Dan Prucnal

Laboratory Manager



Sample Summary

Project Name: Kop-Flex
 PSS Project No.: 24060719

The following samples were received under chain of custody by Phase Separation Science (PSS) on 06/07/2024 at 12:48 pm
 Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any
 sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24060719-001	Effluent VSP-4	WASTE WATER	06/07/24 10:55
24060719-002	TB-060724	WATER	06/07/24 00:00

Project Name: Kop-Flex
PSS Project No.: 24060719

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24060719

Sample ID: Effluent VSP-4 **Date/Time Sampled: 06/07/2024 10:55** **PSS Sample ID: 24060719-001**
Matrix: WASTE WATER **Date/Time Received: 06/07/2024 12:48**

Total Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Copper	4.0	ug/L	1.0		1	0.98	06/10/24	06/11/24 19:47	1059
Lead	ND	ug/L	1.0		1	0.66	06/10/24	06/11/24 19:47	1059
Nickel	16.6	ug/L	1.00		1	0.95	06/10/24	06/11/24 19:47	1059
Zinc	31.0	ug/L	20.0		1	7.1	06/10/24	06/11/24 19:47	1059

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	06/20/24	06/20/24 09:20	1011
Surrogate(s)	Recovery		Limits						
Dibromofluoromethane	106	%	94-108		1		06/20/24	06/20/24 09:20	1011
4-Bromofluorobenzene	95	%	77-120		1		06/20/24	06/20/24 09:20	1011
Toluene-D8	100	%	95-104		1		06/20/24	06/20/24 09:20	1011

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=6

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	06/07/24	06/07/24 18:50	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	06/07/24	06/07/24 18:50	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	06/07/24	06/07/24 18:50	1011
Chloromethane	ND	ug/L	1.0		1	0.33	06/07/24	06/07/24 18:50	1011
Vinyl Chloride	ND	ug/L	1.0		1	0.34	06/07/24	06/07/24 18:50	1011
Bromomethane	ND	ug/L	1.0		1	0.6	06/07/24	06/07/24 18:50	1011
Chloroethane	ND	ug/L	1.0		1	0.23	06/07/24	06/07/24 18:50	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	06/07/24	06/07/24 18:50	1011
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	06/07/24	06/07/24 18:50	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	06/07/24	06/07/24 18:50	1011
Methylene Chloride	ND	ug/L	1.0		1	0.34	06/07/24	06/07/24 18:50	1011
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	06/07/24	06/07/24 18:50	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	06/07/24	06/07/24 18:50	1011
Chloroform	ND	ug/L	1.0		1	0.21	06/07/24	06/07/24 18:50	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	06/07/24	06/07/24 18:50	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	06/07/24	06/07/24 18:50	1011
Benzene	ND	ug/L	1.0		1	0.19	06/07/24	06/07/24 18:50	1011

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24060719

Sample ID: Effluent VSP-4 **Date/Time Sampled: 06/07/2024 10:55** **PSS Sample ID: 24060719-001**
Matrix: WASTE WATER **Date/Time Received: 06/07/2024 12:48**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=6

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	06/07/24	06/07/24 18:50	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	06/07/24	06/07/24 18:50	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	06/07/24	06/07/24 18:50	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	06/07/24	06/07/24 18:50	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	06/07/24	06/07/24 18:50	1011
Toluene	ND	ug/L	1.0		1	0.52	06/07/24	06/07/24 18:50	1011
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	06/07/24	06/07/24 18:50	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	06/07/24	06/07/24 18:50	1011
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	06/07/24	06/07/24 18:50	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	06/07/24	06/07/24 18:50	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	06/07/24	06/07/24 18:50	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	06/07/24	06/07/24 18:50	1011
Bromoform	ND	ug/L	1.0		1	0.17	06/07/24	06/07/24 18:50	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	06/07/24	06/07/24 18:50	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	06/07/24	06/07/24 18:50	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	06/07/24	06/07/24 18:50	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	06/07/24	06/07/24 18:50	1011
Surrogate(s) Recovery Limits									
<i>Dibromofluoromethane</i>	105	%	94-108		1		06/07/24	06/07/24 18:50	1011
<i>4-Bromofluorobenzene</i>	97	%	77-120		1		06/07/24	06/07/24 18:50	1011
<i>Toluene-D8</i>	102	%	95-104		1		06/07/24	06/07/24 18:50	1011

Total Suspended Solids Analytical Method: SM 2540D -2015

Qualifier(s): See Batch 213583 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Total Suspended Solids	1.6	mg/L	2.4	J	1	0.94	06/13/24	06/13/24 11:30	1073

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24060719

Sample ID: TB-060724 **Date/Time Sampled: 06/07/2024 00:00** **PSS Sample ID: 24060719-002**
Matrix: WATER **Date/Time Received: 06/07/2024 12:48**

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	06/20/24	06/20/24 09:42	1011
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	107	%	94-108		1		06/20/24	06/20/24 09:42	1011
<i>4-Bromofluorobenzene</i>	94	%	77-120		1		06/20/24	06/20/24 09:42	1011
<i>Toluene-D8</i>	101	%	95-104		1		06/20/24	06/20/24 09:42	1011

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	06/07/24	06/07/24 19:12	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	06/07/24	06/07/24 19:12	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	06/07/24	06/07/24 19:12	1011
Chloromethane	ND	ug/L	1.0		1	0.33	06/07/24	06/07/24 19:12	1011
Vinyl Chloride	ND	ug/L	1.0		1	0.34	06/07/24	06/07/24 19:12	1011
Bromomethane	ND	ug/L	1.0		1	0.6	06/07/24	06/07/24 19:12	1011
Chloroethane	ND	ug/L	1.0		1	0.23	06/07/24	06/07/24 19:12	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	06/07/24	06/07/24 19:12	1011
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	06/07/24	06/07/24 19:12	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	06/07/24	06/07/24 19:12	1011
Methylene Chloride	0.61	ug/L	1.0	J	1	0.34	06/07/24	06/07/24 19:12	1011
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	06/07/24	06/07/24 19:12	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	06/07/24	06/07/24 19:12	1011
Chloroform	ND	ug/L	1.0		1	0.21	06/07/24	06/07/24 19:12	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	06/07/24	06/07/24 19:12	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	06/07/24	06/07/24 19:12	1011
Benzene	ND	ug/L	1.0		1	0.19	06/07/24	06/07/24 19:12	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	06/07/24	06/07/24 19:12	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	06/07/24	06/07/24 19:12	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	06/07/24	06/07/24 19:12	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	06/07/24	06/07/24 19:12	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	06/07/24	06/07/24 19:12	1011
Toluene	ND	ug/L	1.0		1	0.52	06/07/24	06/07/24 19:12	1011
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	06/07/24	06/07/24 19:12	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	06/07/24	06/07/24 19:12	1011

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24060719

Sample ID: TB-060724 **Date/Time Sampled: 06/07/2024 00:00** **PSS Sample ID: 24060719-002**
Matrix: WATER **Date/Time Received: 06/07/2024 12:48**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	06/07/24	06/07/24 19:12	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	06/07/24	06/07/24 19:12	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	06/07/24	06/07/24 19:12	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	06/07/24	06/07/24 19:12	1011
Bromoform	ND	ug/L	1.0		1	0.17	06/07/24	06/07/24 19:12	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	06/07/24	06/07/24 19:12	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	06/07/24	06/07/24 19:12	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	06/07/24	06/07/24 19:12	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	06/07/24	06/07/24 19:12	1011
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	105 %		94-108		1		06/07/24	06/07/24 19:12	1011
<i>4-Bromofluorobenzene</i>	99 %		77-120		1		06/07/24	06/07/24 19:12	1011
<i>Toluene-D8</i>	100 %		95-104		1		06/07/24	06/07/24 19:12	1011

Case Narrative

Project Name: Kop-Flex

PSS Project No.: 24060719

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

Preservative not indicated on COC for metals, 1,4 dioxane, and VOC. Received containers preserved with HNO₃, HCl, and a 624 kit.

Analytical:

Total Suspended Solids

Batch: 213583

The relative percent difference (RPD) between the sample duplicates exceeded the control limits, and the concentration of the sample used for duplicate analyses was less than five times the reporting limit (RL), therefore RPD criterion is not applicable. The quality control criterion used to evaluate the duplicates is: the absolute difference between the duplicates should be less than the RL.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

EPA 624 .1: 1,4-Dioxane

Lab Chronology

Project Name: Kop-Flex
 PSS Project No.: 24060719

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 200.8	24060719-001	142	Initial	W	100561	213522	06/10/2024 10:15	06/11/2024 19:47
	100561-1-BKS		BKS	W	100561	213522	06/10/2024 10:15	06/11/2024 18:17
	100561-1-BLK		BLK	W	100561	213522	06/10/2024 10:15	06/11/2024 18:12
	24060612-001 S	925	MS	W	100561	213522	06/10/2024 10:15	06/11/2024 18:44
	24060612-001 SD	925	MSD	W	100561	213522	06/10/2024 10:15	06/11/2024 18:49
EPA 624 .1	24060719-001	146	Initial	W	100545	213441	06/07/2024 10:37	06/07/2024 18:50
	24060719-002	149	Initial	W	100545	213441	06/07/2024 10:37	06/07/2024 19:12
	100545-1-BKS		BKS	W	100545	213441	06/07/2024 10:37	06/07/2024 10:58
	100545-1-BLK		BLK	W	100545	213441	06/07/2024 10:37	06/07/2024 12:03
	24060529-001 S	316	MS	W	100545	213441	06/07/2024 10:37	06/07/2024 13:07
	24060529-001 SD	316	MSD	W	100545	213441	06/07/2024 10:37	06/07/2024 13:29
EPA 624 .1	24060719-001	143	Initial	W	100747	213768	06/20/2024 13:48	06/20/2024 09:20
	24060719-002	150	Initial	W	100747	213768	06/20/2024 13:48	06/20/2024 09:42
	100747-1-BKS		BKS	W	100747	213768	06/20/2024 13:48	06/20/2024 07:42
	100747-1-BLK		BLK	W	100747	213768	06/20/2024 13:48	06/20/2024 08:59
	100747-1-BSD		BSD	W	100747	213768	06/20/2024 13:48	06/20/2024 08:16
	24060719-001 S	144	MS	W	100747	213768	06/20/2024 13:48	06/20/2024 10:03
	24060719-001 SD	144	MSD	W	100747	213768	06/20/2024 13:48	06/20/2024 10:25
SM 2540D -2015	24060719-001	141	Initial	W	213583	213583	06/13/2024 11:30	06/13/2024 11:30
	213583-1-BKS		BKS	W	213583	213583	06/13/2024 11:30	06/13/2024 11:30
	213583-1-BLK		BLK	W	213583	213583	06/13/2024 11:30	06/13/2024 11:30
	24060719-001 D	141	MD	W	213583	213583	06/13/2024 11:30	06/13/2024 11:30
	24061216-001 D	734	MD	W	213583	213583	06/13/2024 11:30	06/13/2024 11:30

QC Summary

Project Name Kop-Flex
PSS Project No.: 24060719

Analytical Method: SM 2540D -2015

Seq Number: 213583 Matrix: Water
MB Sample ID: 213583-1-BLK LCS Sample ID: 213583-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Total Suspended Solids	<0.4000	100.4	97.60	97	86-110	mg/L	

Analytical Method: SM 2540D -2015

Seq Number: 213583 Matrix: Waste Water
Parent Sample ID: 24060719-001 MD Sample ID: 24060719-001 D

Parameter	Parent Result	MD Result	RPD	RPD Limit	Units	Flag
Total Suspended Solids	1.647	2.118	25	19	mg/L	JF

Analytical Method: EPA 200.8

Seq Number: 213522 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 100561-1-BLK LCS Sample ID: 100561-1-BKS Date Prep: 06/10/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Copper	<0.9800	50.00	51.29	103	85-115	ug/L	
Lead	<0.6600	50.00	51.83	104	85-115	ug/L	
Nickel	<0.9500	50.00	50.27	101	85-115	ug/L	
Zinc	<7.100	100	99.39	99	85-115	ug/L	

Analytical Method: EPA 624 .1

Seq Number: 213768 Matrix: Water Prep Method: E624PREP
MB Sample ID: 100747-1-BLK LCS Sample ID: 100747-1-BKS Date Prep: 06/20/24
LCSD Sample ID: 100747-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<26.00	30.00	25.12	84	24.81	83	54-145	1	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Dibromofluoromethane	107		104		103		94-108	%
4-Bromofluorobenzene	92		96		95		77-120	%
Toluene-D8	103		100		100		95-104	%

Project Name Kop-Flex

PSS Project No.: 24060719

Analytical Method: EPA 624 .1

Seq Number: 213441

MB Sample ID: 100545-1-BLK

Matrix: Water

LCS Sample ID: 100545-1-BKS

Prep Method: E624PREP

Date Prep: 06/07/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acrolein	<1.700	50.00	42.33	85	60-140	ug/L	
Acrylonitrile	<1.500	50.00	44.44	89	60-140	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	45.50	91	51-128	ug/L	
Chloromethane	<0.3300	50.00	35.64	71	1-205	ug/L	
Vinyl Chloride	<0.3400	50.00	44.42	89	5-195	ug/L	
Bromomethane	<0.6000	50.00	50.81	102	15-185	ug/L	
Chloroethane	<0.2300	50.00	50.81	102	40-160	ug/L	
Trichlorofluoromethane	<0.1700	50.00	49.47	99	50-150	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	73.03	146	1-225	ug/L	
1,1-Dichloroethene	<0.1800	50.00	46.36	93	50-150	ug/L	
Methylene Chloride	<0.3400	50.00	51.73	103	60-140	ug/L	
trans-1,2-dichloroethene	<0.2900	50.00	51.63	103	70-130	ug/L	
1,1-Dichloroethane	<0.1900	50.00	47.48	95	70-130	ug/L	
Chloroform	<0.2100	50.00	48.92	98	70-135	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	50.40	101	70-130	ug/L	
Carbon Tetrachloride	<0.2200	50.00	53.63	107	70-130	ug/L	
Benzene	<0.1900	50.00	50.73	101	65-135	ug/L	
1,2-Dichloroethane	<0.1800	50.00	48.65	97	70-130	ug/L	
Trichloroethene	<0.1900	50.00	53.42	107	65-135	ug/L	
1,2-Dichloropropane	<0.1700	50.00	49.94	100	35-165	ug/L	
Bromodichloromethane	<0.1800	50.00	51.75	104	65-135	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	54.21	108	25-175	ug/L	
Toluene	<0.5200	50.00	51.65	103	70-130	ug/L	
trans-1,3-dichloropropene	<0.1500	50.00	47.78	96	50-150	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	51.84	104	70-130	ug/L	
Tetrachloroethylene	<0.2300	50.00	53.45	107	70-130	ug/L	
Dibromochloromethane	<0.1800	50.00	54.03	108	70-135	ug/L	
Chlorobenzene	<0.2300	50.00	52.17	104	65-135	ug/L	
Ethylbenzene	<0.1500	50.00	53.24	106	60-140	ug/L	
Bromoform	<0.1700	50.00	55.67	111	70-130	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	49.31	99	60-140	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	53.41	107	70-130	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	51.57	103	65-135	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	53.83	108	65-135	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units
Dibromofluoromethane	104		101		94-108	%
4-Bromofluorobenzene	96		95		77-120	%
Toluene-D8	100		100		95-104	%

QC Summary

Project Name Kop-Flex
PSS Project No.: 24060719

Analytical Method: EPA 624 .1

Seq Number: 213768

Parent Sample ID: 24060719-001

Matrix: Waste Water

MS Sample ID: 24060719-001 S

Prep Method: E624PREP

Date Prep: 06/20/24

MSD Sample ID: 24060719-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<1.000	30.00	19.88	66	22.56	75	59-145	13	18	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	104		104		94-108	%
4-Bromofluorobenzene	91		95		77-120	%
Toluene-D8	101		100		95-104	%

Project Name Kop-Flex
PSS Project No.: 24060719

Analytical Method: EPA 200.8

CCV Sample Id: CCV 1 Seq Number: 213522
Analyzed Date: 06/11/24 17:19

Parameter	CCV %Rec	Limits	Flag
Copper	104	85-115	
Lead	104	85-115	
Nickel	101	85-115	
Zinc	104	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 2 Seq Number: 213522
Analyzed Date: 06/11/24 18:28

Parameter	CCV %Rec	Limits	Flag
Copper	102	85-115	
Lead	105	85-115	
Nickel	100	85-115	
Zinc	101	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 3 Seq Number: 213522
Analyzed Date: 06/11/24 19:37

Parameter	CCV %Rec	Limits	Flag
Copper	102	85-115	
Lead	105	85-115	
Nickel	99	85-115	
Zinc	99	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 4 Seq Number: 213522
Analyzed Date: 06/11/24 20:46

Parameter	CCV %Rec	Limits	Flag
Copper	101	85-115	
Lead	106	85-115	
Nickel	99	85-115	
Zinc	98	85-115	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 213522
Analyzed Date: 06/11/24 15:53

Parameter	ICV %Rec	Limits	Flag
Copper	103	90-110	
Lead	105	90-110	
Nickel	101	90-110	
Zinc	101	90-110	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 210552
Analyzed Date: 02/21/24 11:47

Parameter	ICV %Rec	Limits	Flag
1,4-Dioxane	105	54-145	
Surrogate		Limits	Flag
Dibromofluoromethane	99	94-108	
4-Bromofluorobenzene	99	77-120	
Toluene-D8	99	95-104	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 212217
Analyzed Date: 04/26/24 09:32

Parameter	ICV %Rec	Limits	Flag
Acrolein	98	60-140	
Acrylonitrile	101	60-140	
Dichlorodifluoromethane	99	51-128	
Chloromethane	93	1-205	
Vinyl Chloride	93	5-195	
Bromomethane	94	15-185	
Chloroethane	95	40-160	
Trichlorofluoromethane	101	50-150	
2-Chloroethyl Vinyl Ether	91	1-225	
1,1-Dichloroethene	99	50-150	
Methylene Chloride	99	60-140	
trans-1,2-dichloroethene	101	70-130	
1,1-Dichloroethane	100	70-130	
Chloroform	97	70-135	

Project Name Kop-Flex
PSS Project No.: 24060719

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 212217
Analyzed Date: 04/26/24 09:32

Parameter	ICV %Rec	Limits	Flag
1,1,1-Trichloroethane	103	70-130	
Carbon Tetrachloride	105	70-130	
Benzene	101	65-135	
1,2-Dichloroethane	98	70-130	
Trichloroethene	101	65-135	
1,2-Dichloropropane	101	35-165	
Bromodichloromethane	103	65-135	
cis-1,3-Dichloropropene	113	25-175	
Toluene	101	70-130	
trans-1,3-dichloropropene	102	50-150	
1,1,2-Trichloroethane	99	70-130	
Tetrachloroethylene	103	70-130	
Dibromochloromethane	108	70-135	
Chlorobenzene	101	65-135	
Ethylbenzene	108	60-140	
Bromoform	112	70-130	
1,1,2,2-Tetrachloroethane	107	60-140	
1,3-Dichlorobenzene	108	70-130	
1,4-Dichlorobenzene	105	65-135	
1,2-Dichlorobenzene	108	65-135	
Surrogate		Limits	Flag
Dibromofluoromethane	99	94-108	
4-Bromofluorobenzene	102	77-120	
Toluene-D8	100	95-104	

**PHASE
SEPARATION
SCIENCE**

CHAIN OF CUSTODY FORM

All fields must be completed accurately. Shaded sections for lab use only.

www.phaseonline.com ~ info@phaseonline.com

6630 Baltimore National Pike • Suite 103-A • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047

PSS CLIENT: WSP USA		OFFICE LOCATION: Herndon, VA		PSS Work Order #: 24060719		PAGE 1 OF 1									
BILL TO (if different):		PHONE #: 703-709-6500		Matrix Codes: SW=Surface Water DW=Drinking Water GW=Ground Water WW=Waste Water O=Oil S=Soil SOL=Solid A=Air WI=Wipe											
CONTACT: Eric Johnson		EMAIL: eric.johnson@wsp.com		# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes		Analysis/Method Required	Preservative Codes						
PROJECT NAME: Kop-Flex		PROJECT #: 31405608.01/02				1,4-dioxane EPA 624.1				VOLs EPA 624.1		Total Metals EPA 200.8		TSS SM 2540D	
SITE LOCATION: Hanover, MD		P.O. #:													
SAMPLER(S): Greg Makris		DW CERT #:													
PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes	Analysis/Method Required	Preservative Codes						
1	EFFluent VSP-4	06/07/24	10:55	WW	8	G	3 3	1 1	1 - HCL 2 - H ₂ SO ₄ 3 - HNO ₃ 4 - NaOH 5 - E624KIT 6 - ICE 7 - Sodium Thiosulfate 8 - Ascorbic Acid 9 - TerraCore Kit						
2	TB-060724			TB	4	-	2 2								
<i>[Large handwritten scribble]</i>															
Relinquished By: (1) <i>[Signature]</i>		Date	Time	Received By: <i>[Signature]</i>	Requested TAT (One TAT per COC)			Ice Present: YES PRES TB=20.0c							
		6/7/24	1248		<input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input checked="" type="checkbox"/> Other			Custody Seal: YES INTACT-COOLER							
Relinquished By: (2)		Date	Time	Received By:	STATE RESULTS REPORTED TO:			# Coolers: 1 Temp: 8.3 to 4.0c							
					<input type="checkbox"/> MD <input type="checkbox"/> DE <input type="checkbox"/> PA <input type="checkbox"/> VA <input type="checkbox"/> WV <input type="checkbox"/> OTHER			Shipping Carrier: Client							
Relinquished By: (3)		Date	Time	Received By:	COMPLIANCE?		Special Instructions: Standard 10-day TAT								
					<input type="checkbox"/> DW <input type="checkbox"/> WW										
Relinquished By: (4)		Date	Time	Received By:	EDD FORMAT TYPE										

This chain of custody is a legal document. The client (PSS Client), by signing, or having client's agent sign, this "Chain of Custody Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

Sample Receipt Checklist

Project Name: Kop-Flex
PSS Project No.: 24060719

Client Name WSP USA - Herndon
Disposal Date 07/12/2024

Received By Tyler Enwright
Date Received 06/07/2024 12:48 PM
Delivered By Client
Tracking # Not Applicable
Logged In By Tyler Enwright

Shipping Container(s)

of Coolers 1

Custody Seal(s) Intact? Yes
Seal(s) Signed / Dated? Yes

Ice Present
Temp (°C) 10.4
Temp Blank Present No

Documentation

COC agrees with sample labels? Yes
Chain of Custody Yes

Sampler Name Gregory Makris
MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes
Intact? Yes
Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? Yes

Total # of Samples Received 2
Total # of Containers Received 12

Preservation

Total Metals (pH<2) N/A
Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
Orthophosphorus, filtered within 15 minutes of collection N/A
Cyanides (pH>12) N/A
Sulfide (pH>9) N/A
TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
TOX, TKN, NH3, Total Phos (pH<2) N/A
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) Yes
Do VOA vials have zero headspace? Yes
624 VOC (Rcvd at least one unpreserved VOA vial) Yes
524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, the sample ID, preservative added, documentation of any client notification, and subsequent client instructions are noted below. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C, and <=4°C for EPA 524. Samples that are received by the lab on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that thermal preservation has begun.

Preservative not indicated on COC for metals, 1,4 dioxane, and VOC. Received containers preserved with HNO3, HCl, and a 624 kit.

Samples Inspected/Checklist Completed By: Tyler Enwright
Tyler Enwright

Date: 06/07/2024

PM Review and Approval: Andrew J. Cooper
Andrew J. Cooper

Date: 06/07/2024

Project Name: Kop-Flex
PSS Project No.: 24070317

July 18, 2024

Eric Johnson
WSP USA - Herndon
13530 Dulles Technology Dr, Ste 300
Herndon, VA 20171



Reference: PSS Project No: **24070317**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 31405608.010/0202

Dear Eric Johnson:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24070317**.

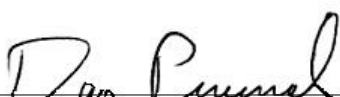
All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on August 7, 2024, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,


Dan Prucnal

Laboratory Manager

Sample Summary

Project Name: Kop-Flex
 PSS Project No.: 24070317

The following samples were received under chain of custody by Phase Separation Science (PSS) on 07/03/2024 at 12:24 pm
 Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any
 sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24070317-001	Influent VSP-1	GROUND WATER	07/03/24 10:40
24070317-002	Effluent VSP-4	WASTE WATER	07/03/24 10:30
24070317-003	Trip Blank-070324	WATER	07/03/24 00:00

Project Name: Kop-Flex
PSS Project No.: 24070317

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24070317

Sample ID: Influent VSP-1 **Date/Time Sampled: 07/03/2024 10:40** **PSS Sample ID: 24070317-001**
Matrix: GROUND WATER **Date/Time Received: 07/03/2024 12:24**

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	75.3	ug/L	10.0		10	10	07/13/24	07/13/24 10:39	1011
<i>Surrogate(s)</i>	<i>Recovery</i>		<i>Limits</i>						
<i>Dibromofluoromethane</i>	<i>102</i>	<i>%</i>	<i>94-108</i>		<i>10</i>		<i>07/13/24</i>	<i>07/13/24 10:39</i>	<i>1011</i>
<i>4-Bromofluorobenzene</i>	<i>93</i>	<i>%</i>	<i>77-120</i>		<i>10</i>		<i>07/13/24</i>	<i>07/13/24 10:39</i>	<i>1011</i>
<i>Toluene-D8</i>	<i>100</i>	<i>%</i>	<i>95-104</i>		<i>10</i>		<i>07/13/24</i>	<i>07/13/24 10:39</i>	<i>1011</i>
<i>Dibromofluoromethane</i>	<i>101</i>	<i>%</i>	<i>94-108</i>		<i>1</i>		<i>07/13/24</i>	<i>07/13/24 11:00</i>	<i>1011</i>
<i>4-Bromofluorobenzene</i>	<i>91</i>	<i>%</i>	<i>77-120</i>		<i>1</i>		<i>07/13/24</i>	<i>07/13/24 11:00</i>	<i>1011</i>
<i>Toluene-D8</i>	<i>99</i>	<i>%</i>	<i>95-104</i>		<i>1</i>		<i>07/13/24</i>	<i>07/13/24 11:00</i>	<i>1011</i>

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 214200 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	5.0		1	1.5	07/08/24	07/08/24 14:06	1011
Benzene	ND	ug/L	1.0		1	0.19	07/08/24	07/08/24 14:06	1011
Bromochloromethane	ND	ug/L	1.0		1	0.28	07/08/24	07/08/24 14:06	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	07/08/24	07/08/24 14:06	1011
Bromoform	ND	ug/L	1.0		1	0.17	07/08/24	07/08/24 14:06	1011
Bromomethane	ND	ug/L	1.0		1	0.6	07/08/24	07/08/24 14:06	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	07/08/24	07/08/24 14:06	1011
Carbon Disulfide	ND	ug/L	1.0		1	0.35	07/08/24	07/08/24 14:06	1011
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	07/08/24	07/08/24 14:06	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	07/08/24	07/08/24 14:06	1011
Chloroethane	8.7	ug/L	1.0		1	0.23	07/08/24	07/08/24 14:06	1011
Chloroform	ND	ug/L	1.0		1	0.21	07/08/24	07/08/24 14:06	1011
Chloromethane	ND	ug/L	1.0		1	0.33	07/08/24	07/08/24 14:06	1011
Cyclohexane	ND	ug/L	1.0		1	0.32	07/08/24	07/08/24 14:06	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		1	0.19	07/08/24	07/08/24 14:06	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	07/08/24	07/08/24 14:06	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	0.22	07/08/24	07/08/24 14:06	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	07/08/24	07/08/24 14:06	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	07/08/24	07/08/24 14:06	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	07/08/24	07/08/24 14:06	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	07/08/24	07/08/24 14:06	1011
1,1-Dichloroethane	81	ug/L	1.0		1	0.19	07/08/24	07/08/24 14:06	1011

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24070317

Sample ID: Influent VSP-1 **Date/Time Sampled: 07/03/2024 10:40** **PSS Sample ID: 24070317-001**
Matrix: GROUND WATER **Date/Time Received: 07/03/2024 12:24**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 214200 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dichloroethane	1.8	ug/L	1.0		1	0.18	07/08/24	07/08/24 14:06	1011
cis-1,2-Dichloroethene	3.0	ug/L	1.0		1	0.19	07/08/24	07/08/24 14:06	1011
1,1-Dichloroethene	280	ug/L	10		10	1.8	07/08/24	07/08/24 14:42	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	07/08/24	07/08/24 14:06	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	07/08/24	07/08/24 14:06	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	07/08/24	07/08/24 14:06	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	07/08/24	07/08/24 14:06	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	07/08/24	07/08/24 14:06	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	07/08/24	07/08/24 14:06	1011
Isopropylbenzene	ND	ug/L	1.0		1	0.27	07/08/24	07/08/24 14:06	1011
Methyl Acetate	ND	ug/L	1.0		1	0.5	07/08/24	07/08/24 14:06	1011
Methylcyclohexane	ND	ug/L	1.0		1	0.14	07/08/24	07/08/24 14:06	1011
Methylene chloride	0.52	ug/L	1.0	J	1	0.34	07/08/24	07/08/24 14:06	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	07/08/24	07/08/24 14:06	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	0.17	07/08/24	07/08/24 14:06	1011
Naphthalene	ND	ug/L	1.0		1	0.6	07/08/24	07/08/24 14:06	1011
Styrene	ND	ug/L	1.0		1	0.17	07/08/24	07/08/24 14:06	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	07/08/24	07/08/24 14:06	1011
Tetrachloroethene	ND	ug/L	1.0		1	0.23	07/08/24	07/08/24 14:06	1011
Toluene	ND	ug/L	1.0		1	0.52	07/08/24	07/08/24 14:06	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	0.3	07/08/24	07/08/24 14:06	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	0.26	07/08/24	07/08/24 14:06	1011
1,1,1-Trichloroethane	18	ug/L	1.0		1	0.16	07/08/24	07/08/24 14:06	1011
Trichloroethene	1.3	ug/L	1.0		1	0.19	07/08/24	07/08/24 14:06	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	07/08/24	07/08/24 14:06	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	07/08/24	07/08/24 14:06	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	0.17	07/08/24	07/08/24 14:06	1011
Vinyl chloride	1.2	ug/L	1.0		1	0.34	07/08/24	07/08/24 14:06	1011
m&p-Xylene	ND	ug/L	2.0		1	0.4	07/08/24	07/08/24 14:06	1011
o-Xylene	ND	ug/L	1.0		1	0.18	07/08/24	07/08/24 14:06	1011

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24070317

Sample ID: Influent VSP-1 **Date/Time Sampled: 07/03/2024 10:40** **PSS Sample ID: 24070317-001**
Matrix: GROUND WATER **Date/Time Received: 07/03/2024 12:24**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 214200 on Case Narrative.

Surrogate(s)	Recovery		Limits					
4-Bromofluorobenzene	100	%	85-122	1	07/08/24	07/08/24 14:06	1011	
Dibromofluoromethane	101	%	96-107	1	07/08/24	07/08/24 14:06	1011	
Toluene-D8	99	%	95-105	1	07/08/24	07/08/24 14:06	1011	
4-Bromofluorobenzene	101	%	85-122	10	07/08/24	07/08/24 14:42	1011	
Dibromofluoromethane	102	%	96-107	10	07/08/24	07/08/24 14:42	1011	
Toluene-D8	99	%	95-105	10	07/08/24	07/08/24 14:42	1011	

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24070317

Sample ID: Effluent VSP-4 **Date/Time Sampled: 07/03/2024 10:30** **PSS Sample ID: 24070317-002**
Matrix: WASTE WATER **Date/Time Received: 07/03/2024 12:24**

Total Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Copper	3.5	ug/L	1.0		1	0.98	07/09/24	07/10/24 00:34	1059
Lead	ND	ug/L	1.0		1	0.66	07/09/24	07/10/24 00:34	1059
Nickel	16.6	ug/L	1.00		1	0.95	07/09/24	07/10/24 00:34	1059
Zinc	34.2	ug/L	20.0		1	7.1	07/09/24	07/10/24 00:34	1059

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	3.1	ug/L	1.0		1	1	07/13/24	07/13/24 09:56	1011
Surrogate(s)	Recovery		Limits						
Dibromofluoromethane	102	%	94-108		1		07/13/24	07/13/24 09:56	1011
4-Bromofluorobenzene	93	%	77-120		1		07/13/24	07/13/24 09:56	1011
Toluene-D8	99	%	95-104		1		07/13/24	07/13/24 09:56	1011

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=5

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	07/03/24	07/03/24 14:07	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	07/03/24	07/03/24 14:07	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	07/03/24	07/03/24 14:07	1011
Chloromethane	ND	ug/L	1.0		1	0.33	07/03/24	07/03/24 14:07	1011
Vinyl Chloride	ND	ug/L	1.0		1	0.34	07/03/24	07/03/24 14:07	1011
Bromomethane	ND	ug/L	1.0		1	0.6	07/03/24	07/03/24 14:07	1011
Chloroethane	0.51	ug/L	1.0	J	1	0.23	07/03/24	07/03/24 14:07	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	07/03/24	07/03/24 14:07	1011
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	07/03/24	07/03/24 14:07	1011
1,1-Dichloroethene	2.4	ug/L	1.0		1	0.18	07/03/24	07/03/24 14:07	1011
Methylene Chloride	ND	ug/L	1.0		1	0.34	07/03/24	07/03/24 14:07	1011
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	07/03/24	07/03/24 14:07	1011
1,1-Dichloroethane	0.67	ug/L	1.0	J	1	0.19	07/03/24	07/03/24 14:07	1011
Chloroform	ND	ug/L	1.0		1	0.21	07/03/24	07/03/24 14:07	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	07/03/24	07/03/24 14:07	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	07/03/24	07/03/24 14:07	1011
Benzene	ND	ug/L	1.0		1	0.19	07/03/24	07/03/24 14:07	1011

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24070317

Sample ID: Effluent VSP-4 **Date/Time Sampled: 07/03/2024 10:30** **PSS Sample ID: 24070317-002**
Matrix: WASTE WATER **Date/Time Received: 07/03/2024 12:24**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=5

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	07/03/24	07/03/24 14:07	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	07/03/24	07/03/24 14:07	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	07/03/24	07/03/24 14:07	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	07/03/24	07/03/24 14:07	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	07/03/24	07/03/24 14:07	1011
Toluene	ND	ug/L	1.0		1	0.52	07/03/24	07/03/24 14:07	1011
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	07/03/24	07/03/24 14:07	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	07/03/24	07/03/24 14:07	1011
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	07/03/24	07/03/24 14:07	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	07/03/24	07/03/24 14:07	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	07/03/24	07/03/24 14:07	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	07/03/24	07/03/24 14:07	1011
Bromoform	ND	ug/L	1.0		1	0.17	07/03/24	07/03/24 14:07	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	07/03/24	07/03/24 14:07	1011
1,3-Dichlorobenzene	0.65	ug/L	1.0	J	1	0.23	07/03/24	07/03/24 14:07	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	07/03/24	07/03/24 14:07	1011
1,2-Dichlorobenzene	0.56	ug/L	1.0	J	1	0.2	07/03/24	07/03/24 14:07	1011
Surrogate(s) Recovery Limits									
<i>Dibromofluoromethane</i>	101	%	94-108		1		07/03/24	07/03/24 14:07	1011
<i>4-Bromofluorobenzene</i>	99	%	77-120		1		07/03/24	07/03/24 14:07	1011
<i>Toluene-D8</i>	99	%	95-104		1		07/03/24	07/03/24 14:07	1011

Total Suspended Solids Analytical Method: SM 2540D -2015

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Total Suspended Solids	ND	mg/L	1.1		1	0.42	07/08/24	07/08/24 11:30	1074

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24070317

Sample ID: Effluent VSP-4 **Date/Time Sampled: 07/03/2024 10:30** **PSS Sample ID: 24070317-002**
Matrix: WASTE WATER **Date/Time Received: 07/03/2024 12:24**

Biochemical Oxygen Demand Analytical Method: SM 5210B -2016

Qualifier(s): See NELAP accreditation section on Case Narrative.

	Result	Units	RL	Flag	MDL	Prepared	Analyzed	Analyst
Biochemical Oxygen Demand, 5 day	ND	mg/L		2		07/05/24	07/05/24 10:05	4009

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24070317

Sample ID: Trip Blank-070324 **Date/Time Sampled: 07/03/2024 00:00** **PSS Sample ID: 24070317-003**
Matrix: WATER **Date/Time Received: 07/03/2024 12:24**

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	07/13/24	07/13/24 10:17	1011
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	102	%	94-108		1		07/13/24	07/13/24 10:17	1011
<i>4-Bromofluorobenzene</i>	94	%	77-120		1		07/13/24	07/13/24 10:17	1011
<i>Toluene-D8</i>	99	%	95-104		1		07/13/24	07/13/24 10:17	1011

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 214332 on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	07/13/24	07/13/24 14:16	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	07/13/24	07/13/24 14:16	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	07/13/24	07/13/24 14:16	1011
Chloromethane	ND	ug/L	1.0		1	0.33	07/13/24	07/13/24 14:16	1011
Vinyl Chloride	ND	ug/L	1.0		1	0.34	07/13/24	07/13/24 14:16	1011
Bromomethane	ND	ug/L	1.0		1	0.6	07/13/24	07/13/24 14:16	1011
Chloroethane	ND	ug/L	1.0		1	0.23	07/13/24	07/13/24 14:16	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	07/13/24	07/13/24 14:16	1011
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	07/13/24	07/13/24 14:16	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	07/13/24	07/13/24 14:16	1011
Methylene Chloride	ND	ug/L	1.0		1	0.34	07/13/24	07/13/24 14:16	1011
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	07/13/24	07/13/24 14:16	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	07/13/24	07/13/24 14:16	1011
Chloroform	ND	ug/L	1.0		1	0.21	07/13/24	07/13/24 14:16	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	07/13/24	07/13/24 14:16	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	07/13/24	07/13/24 14:16	1011
Benzene	ND	ug/L	1.0		1	0.19	07/13/24	07/13/24 14:16	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	07/13/24	07/13/24 14:16	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	07/13/24	07/13/24 14:16	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	07/13/24	07/13/24 14:16	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	07/13/24	07/13/24 14:16	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	07/13/24	07/13/24 14:16	1011
Toluene	ND	ug/L	1.0		1	0.52	07/13/24	07/13/24 14:16	1011
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	07/13/24	07/13/24 14:16	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	07/13/24	07/13/24 14:16	1011

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24070317

Sample ID: Trip Blank-070324 **Date/Time Sampled: 07/03/2024 00:00** **PSS Sample ID: 24070317-003**
Matrix: WATER **Date/Time Received: 07/03/2024 12:24**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 214332 on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	07/13/24	07/13/24 14:16	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	07/13/24	07/13/24 14:16	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	07/13/24	07/13/24 14:16	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	07/13/24	07/13/24 14:16	1011
Bromoform	ND	ug/L	1.0		1	0.17	07/13/24	07/13/24 14:16	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	07/13/24	07/13/24 14:16	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	07/13/24	07/13/24 14:16	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	07/13/24	07/13/24 14:16	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	07/13/24	07/13/24 14:16	1011
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	101 %		94-108		1		07/13/24	07/13/24 14:16	1011
<i>4-Bromofluorobenzene</i>	99 %		77-120		1		07/13/24	07/13/24 14:16	1011
<i>Toluene-D8</i>	99 %		95-104		1		07/13/24	07/13/24 14:16	1011

Case Narrative

Project Name: Kop-Flex

PSS Project No.: 24070317

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

No sampling time on COC. Obtained from container label(s).

24070317: Analyses associated with analyst code 4009 were performed by Martel Laboratories, Inc., 1025 Cromwell Bridge Road, Towson, MD 21204

Analytical:

Volatile Organics Compounds

Batch: 214332

Method exceedance: Laboratory control sample (LCS) exceedances identified; see QC summary.

Analytical:

TCL Volatile Organic Compounds

Batch: 214200

Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Analytical Method(s): SM 5210B -2016

EPA 624 .1: 1,4-Dioxane

Lab Chronology

Project Name: Kop-Flex
PSS Project No.: 24070317

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 200.8	24070317-002	701	Initial	W	101001	214281	07/09/2024 12:00	07/10/2024 00:34
	101001-1-BKS		BKS	W	101001	214281	07/09/2024 12:00	07/09/2024 23:32
	101001-1-BLK		BLK	W	101001	214281	07/09/2024 12:00	07/09/2024 23:26
	24070301-001 S	639	MS	W	101001	214281	07/09/2024 12:00	07/09/2024 23:42
	24070301-001 SD	639	MSD	W	101001	214281	07/09/2024 12:00	07/09/2024 23:47
EPA 624 .1	24070317-002	706	Initial	W	100964	214156	07/03/2024 13:30	07/03/2024 14:07
	100964-1-BKS		BKS	W	100964	214156	07/03/2024 08:04	07/03/2024 08:25
	100964-1-BLK		BLK	W	100964	214156	07/03/2024 08:04	07/03/2024 09:51
	100964-1-BSD		BSD	W	100964	214156	07/03/2024 08:04	07/03/2024 08:47
	24070317-002 S	707	MS	W	100964	214156	07/03/2024 13:30	07/03/2024 14:29
	24070317-002 SD	707	MSD	W	100964	214156	07/03/2024 13:30	07/03/2024 14:50
	24070317-003	711	Initial	W	101054	214332	07/13/2024 12:29	07/13/2024 14:16
	101054-1-BKS		BKS	W	101054	214332	07/13/2024 12:29	07/13/2024 12:50
	101054-1-BLK		BLK	W	101054	214332	07/13/2024 12:29	07/13/2024 13:54
	24071216-001 S	311	MS	W	101054	214332	07/13/2024 12:29	07/13/2024 14:58
	24071216-001 SD	311	MSD	W	101054	214332	07/13/2024 12:29	07/13/2024 15:20
	EPA 624 .1	24070317-002	702	Initial	W	101055	214333	07/13/2024 07:57
24070317-003		709	Initial	W	101055	214333	07/13/2024 07:57	07/13/2024 10:17
101055-1-BKS			BKS	W	101055	214333	07/13/2024 07:57	07/13/2024 08:18
101055-1-BLK			BLK	W	101055	214333	07/13/2024 07:57	07/13/2024 09:35
101055-1-BSD			BSD	W	101055	214333	07/13/2024 07:57	07/13/2024 08:52
24070317-002 S		703	MS	W	101055	214333	07/13/2024 07:57	07/13/2024 11:22
24070317-002 SD		703	MSD	W	101055	214333	07/13/2024 07:57	07/13/2024 11:43
24070317-001		693	Reanalysis	W	101055	214333	07/13/2024 07:57	07/13/2024 10:39
SM 2540D -2015	24070317-002	700	Initial	W	214195	214195	07/08/2024 11:30	07/08/2024 11:30
	214195-1-BKS		BKS	W	214195	214195	07/08/2024 11:30	07/08/2024 11:30
	214195-1-BLK		BLK	W	214195	214195	07/08/2024 11:30	07/08/2024 11:30
	24070301-001 D	634	MD	W	214195	214195	07/08/2024 11:30	07/08/2024 11:30
SM 5210B -2016	24070317-002	699	Initial	W	214354	214354	07/05/2024 10:05	07/05/2024 10:05
SW-846 8260 D	24070317-001	694	Initial	W	100985	214200	07/08/2024 09:23	07/08/2024 14:06
	100985-1-BKS		BKS	W	100985	214200	07/08/2024 09:23	07/08/2024 09:23
	100985-1-BLK		BLK	W	100985	214200	07/08/2024 09:23	07/08/2024 10:27
	24070507-001 S	764	MS	W	100985	214200	07/08/2024 09:23	07/08/2024 11:37
	24070507-001 SD	764	MSD	W	100985	214200	07/08/2024 09:23	07/08/2024 11:58
	24070317-001	694	Reanalysis	W	100985	214200	07/08/2024 09:23	07/08/2024 14:42

QC Summary

Project Name Kop-Flex
PSS Project No.: 24070317

Analytical Method: SM 2540D -2015

Seq Number: 214195 Matrix: Water
MB Sample ID: 214195-1-BLK LCS Sample ID: 214195-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Total Suspended Solids	<0.4000	100.7	99.80	99	88-109	mg/L	

Analytical Method: EPA 200.8

Seq Number: 214281 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 101001-1-BLK LCS Sample ID: 101001-1-BKS Date Prep: 07/09/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Copper	<0.9800	50.00	50.59	101	85-115	ug/L	
Lead	<0.6600	50.00	50.64	101	85-115	ug/L	
Nickel	<0.9500	50.00	50.62	101	85-115	ug/L	
Zinc	<7.100	100	99.99	100	85-115	ug/L	

Project Name Kop-Flex
PSS Project No.: 24070317

Analytical Method: EPA 624 .1

Seq Number: 214156

MB Sample ID: 100964-1-BLK

Matrix: Water

LCS Sample ID: 100964-1-BKS

Prep Method: E624PREP

Date Prep: 07/03/24

LCSD Sample ID: 100964-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acrolein	<1.700	50.00	41.40	83	42.93	86	60-140	4	20	ug/L	
Acrylonitrile	<1.500	50.00	44.24	88	46.68	93	60-140	5	20	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	53.52	107	54.71	109	51-128	2	20	ug/L	
Chloromethane	<0.3300	50.00	35.64	71	36.62	73	1-205	3	20	ug/L	
Vinyl Chloride	<0.3400	50.00	38.42	77	39.17	78	5-195	2	20	ug/L	
Bromomethane	<0.6000	50.00	40.18	80	43.62	87	15-185	8	20	ug/L	
Chloroethane	<0.2300	50.00	49.94	100	51.88	104	40-160	4	20	ug/L	
Trichlorofluoromethane	<0.1700	50.00	45.20	90	46.78	94	50-150	3	20	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	71.13	142	76.08	152	1-225	7	20	ug/L	
1,1-Dichloroethene	<0.1800	50.00	44.96	90	47.33	95	50-150	5	20	ug/L	
Methylene Chloride	<0.3400	50.00	51.31	103	54.85	110	60-140	7	20	ug/L	
trans-1,2-dichloroethene	<0.2900	50.00	51.14	102	55.06	110	70-130	7	20	ug/L	
1,1-Dichloroethane	<0.1900	50.00	46.90	94	50.01	100	70-130	6	20	ug/L	
Chloroform	<0.2100	50.00	48.16	96	51.12	102	70-135	6	20	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	50.54	101	54.42	109	70-130	7	20	ug/L	
Carbon Tetrachloride	<0.2200	50.00	53.35	107	57.62	115	70-130	8	20	ug/L	
Benzene	<0.1900	50.00	50.56	101	54.01	108	65-135	7	20	ug/L	
1,2-Dichloroethane	<0.1800	50.00	46.24	92	49.10	98	70-130	6	20	ug/L	
Trichloroethene	<0.1900	50.00	52.48	105	56.78	114	65-135	8	20	ug/L	
1,2-Dichloropropane	<0.1700	50.00	49.75	100	53.23	106	35-165	7	20	ug/L	
Bromodichloromethane	<0.1800	50.00	51.17	102	54.73	109	65-135	7	20	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	54.85	110	59.03	118	25-175	7	20	ug/L	
Toluene	<0.5200	50.00	51.94	104	56.04	112	70-130	8	20	ug/L	
trans-1,3-dichloropropene	<0.1500	50.00	48.27	97	52.45	105	50-150	8	20	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	51.28	103	54.63	109	70-130	6	20	ug/L	
Tetrachloroethylene	<0.2300	50.00	55.10	110	59.54	119	70-130	8	20	ug/L	
Dibromochloromethane	<0.1800	50.00	54.83	110	59.63	119	70-135	8	20	ug/L	
Chlorobenzene	<0.2300	50.00	52.70	105	56.90	114	65-135	8	20	ug/L	
Ethylbenzene	<0.1500	50.00	53.71	107	57.75	116	60-140	7	20	ug/L	
Bromoform	<0.1700	50.00	57.72	115	62.00	124	70-130	7	20	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	49.79	100	54.12	108	60-140	8	20	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	54.95	110	60.53	121	70-130	10	20	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	52.88	106	58.10	116	65-135	9	20	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	55.94	112	61.19	122	65-135	9	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Dibromofluoromethane	101		99		100		94-108	%
4-Bromofluorobenzene	98		93		94		77-120	%
Toluene-D8	99		99		100		95-104	%

QC Summary

Project Name Kop-Flex
PSS Project No.: 24070317

Analytical Method: EPA 624 .1

Seq Number: 214333

MB Sample ID: 101055-1-BLK

Matrix: Water

LCS Sample ID: 101055-1-BKS

Prep Method: E624PREP

Date Prep: 07/13/24

LCSD Sample ID: 101055-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<26.00	30.00	24.97	83	28.33	94	54-145	13	20	ug/L	
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units			
Dibromofluoromethane	103		101		100		94-108	%			
4-Bromofluorobenzene	92		94		92		77-120	%			
Toluene-D8	100		99		99		95-104	%			

Project Name Kop-Flex
PSS Project No.: 24070317

Analytical Method: EPA 624 .1

Seq Number: 214332

Matrix: Water

Prep Method: E624PREP

Date Prep: 07/13/24

MB Sample ID: 101054-1-BLK

LCS Sample ID: 101054-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acrolein	<1.700	50.00	21.29	43	60-140	ug/L	L
Acrylonitrile	<1.500	50.00	30.53	61	60-140	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	64.67	129	51-128	ug/L	H
Chloromethane	<0.3300	50.00	34.36	69	1-205	ug/L	
Vinyl Chloride	<0.3400	50.00	34.44	69	5-195	ug/L	
Bromomethane	<0.6000	50.00	40.98	82	15-185	ug/L	
Chloroethane	<0.2300	50.00	36.26	73	40-160	ug/L	
Trichlorofluoromethane	<0.1700	50.00	38.91	78	50-150	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	42.98	86	1-225	ug/L	
1,1-Dichloroethene	<0.1800	50.00	31.98	64	50-150	ug/L	
Methylene Chloride	<0.3400	50.00	41.27	83	60-140	ug/L	
trans-1,2-dichloroethene	<0.2900	50.00	42.63	85	70-130	ug/L	
1,1-Dichloroethane	<0.1900	50.00	39.66	79	70-130	ug/L	
Chloroform	<0.2100	50.00	45.20	90	70-135	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	46.62	93	70-130	ug/L	
Carbon Tetrachloride	<0.2200	50.00	49.15	98	70-130	ug/L	
Benzene	<0.1900	50.00	47.78	96	65-135	ug/L	
1,2-Dichloroethane	<0.1800	50.00	42.60	85	70-130	ug/L	
Trichloroethene	<0.1900	50.00	49.19	98	65-135	ug/L	
1,2-Dichloropropane	<0.1700	50.00	47.05	94	35-165	ug/L	
Bromodichloromethane	<0.1800	50.00	47.76	96	65-135	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	51.31	103	25-175	ug/L	
Toluene	<0.5200	50.00	49.21	98	70-130	ug/L	
trans-1,3-dichloropropene	<0.1500	50.00	44.75	90	50-150	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	48.57	97	70-130	ug/L	
Tetrachloroethylene	<0.2300	50.00	51.87	104	70-130	ug/L	
Dibromochloromethane	<0.1800	50.00	52.75	106	70-135	ug/L	
Chlorobenzene	<0.2300	50.00	51.95	104	65-135	ug/L	
Ethylbenzene	<0.1500	50.00	51.70	103	60-140	ug/L	
Bromoform	<0.1700	50.00	54.61	109	70-130	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	49.12	98	60-140	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	55.03	110	70-130	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	52.83	106	65-135	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	55.93	112	65-135	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units
Dibromofluoromethane	101		100		94-108	%
4-Bromofluorobenzene	100		94		77-120	%
Toluene-D8	98		99		95-104	%

Project Name Kop-Flex
PSS Project No.: 24070317

Analytical Method: EPA 624 .1

Seq Number: 214156

Parent Sample ID: 24070317-002

Matrix: Waste Water

MS Sample ID: 24070317-002 S

Prep Method: E624PREP

Date Prep: 07/03/24

MSD Sample ID: 24070317-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acrolein	<1.700	50.00	36.13	72	32.73	65	40-160	10	60	ug/L	
Acrylonitrile	<1.500	50.00	39.78	80	37.33	75	40-160	6	60	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	50.49	101	45.05	90	49-132	11	14	ug/L	
Chloromethane	<0.3300	50.00	34.66	69	30.26	61	1-273	14	60	ug/L	
Vinyl Chloride	<0.3400	50.00	31.10	62	29.74	59	1-251	4	66	ug/L	
Bromomethane	<0.6000	50.00	40.62	81	37.00	74	1-242	9	61	ug/L	
Chloroethane	0.5100	50.00	47.72	94	42.25	83	14-230	12	78	ug/L	
Trichlorofluoromethane	<0.1700	50.00	41.37	83	38.10	76	17-181	8	84	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	51.92	104	61.34	123	1-305	17	71	ug/L	
1,1-Dichloroethene	2.440	50.00	46.66	88	43.16	81	1-234	8	32	ug/L	
Methylene Chloride	<0.3400	50.00	49.86	100	45.34	91	1-221	9	28	ug/L	
trans-1,2-dichloroethene	<0.2900	50.00	49.93	100	45.86	92	54-156	8	45	ug/L	
1,1-Dichloroethane	0.6700	50.00	45.82	90	42.47	84	59-155	8	40	ug/L	
Chloroform	<0.2100	50.00	46.17	92	42.69	85	51-138	8	54	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	48.66	97	45.52	91	52-162	7	36	ug/L	
Carbon Tetrachloride	<0.2200	50.00	51.41	103	47.47	95	70-140	8	41	ug/L	
Benzene	<0.1900	50.00	48.51	97	44.95	90	37-151	8	61	ug/L	
1,2-Dichloroethane	<0.1800	50.00	43.20	86	40.10	80	49-155	7	49	ug/L	
Trichloroethene	<0.1900	50.00	50.67	101	47.39	95	70-157	7	48	ug/L	
1,2-Dichloropropane	<0.1700	50.00	47.06	94	44.21	88	1-210	6	55	ug/L	
Bromodichloromethane	<0.1800	50.00	48.26	97	44.64	89	35-155	8	56	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	51.57	103	48.47	97	1-227	6	58	ug/L	
Toluene	<0.5200	50.00	50.44	101	46.11	92	47-150	9	41	ug/L	
trans-1,3-dichloropropene	<0.1500	50.00	44.87	90	42.49	85	17-183	5	86	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	47.92	96	44.80	90	52-150	7	45	ug/L	
Tetrachloroethylene	<0.2300	50.00	53.25	107	49.28	99	64-148	8	39	ug/L	
Dibromochloromethane	<0.1800	50.00	51.39	103	48.25	97	53-149	6	50	ug/L	
Chlorobenzene	<0.2300	50.00	51.35	103	47.14	94	37-160	9	53	ug/L	
Ethylbenzene	<0.1500	50.00	52.52	105	48.02	96	37-162	9	63	ug/L	
Bromoform	<0.1700	50.00	52.59	105	49.04	98	45-169	7	42	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	46.94	94	43.64	87	46-157	7	61	ug/L	
1,3-Dichlorobenzene	0.6500	50.00	54.04	107	49.72	98	59-156	8	43	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	51.80	104	47.79	96	18-190	8	57	ug/L	
1,2-Dichlorobenzene	0.5600	50.00	54.57	108	50.50	100	18-190	8	57	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	99		100		94-108	%
4-Bromofluorobenzene	94		94		77-120	%
Toluene-D8	100		100		95-104	%

QC Summary

Project Name Kop-Flex
PSS Project No.: 24070317

Analytical Method: EPA 624 .1

Seq Number: 214333

Parent Sample ID: 24070317-002

Matrix: Waste Water

MS Sample ID: 24070317-002 S

Prep Method: E624PREP

Date Prep: 07/13/24

MSD Sample ID: 24070317-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	3.140	30.00	31.09	93	27.22	80	59-145	13	18	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	100		100		94-108	%
4-Bromofluorobenzene	89		90		77-120	%
Toluene-D8	98		99		95-104	%

Project Name Kop-Flex
PSS Project No.: 24070317

Analytical Method: SW-846 8260 D

Seq Number: 214200

Matrix: Water

Prep Method: SW5030B

Date Prep: 07/08/24

MB Sample ID: 100985-1-BLK

LCS Sample ID: 100985-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acetone	<1.500	50.00	39.40	79	51-160	ug/L	
Benzene	<0.1900	50.00	47.27	95	79-118	ug/L	
Bromochloromethane	<0.2800	50.00	50.34	101	78-122	ug/L	
Bromodichloromethane	<0.1800	50.00	47.54	95	82-123	ug/L	
Bromoform	<0.1700	50.00	55.90	112	70-141	ug/L	
Bromomethane	<0.6000	50.00	41.18	82	50-142	ug/L	
2-Butanone (MEK)	<1.300	50.00	44.47	89	58-139	ug/L	
Carbon Disulfide	<0.3500	50.00	45.62	91	73-125	ug/L	
Carbon tetrachloride	<0.2200	50.00	49.91	100	77-126	ug/L	
Chlorobenzene	<0.2300	50.00	50.43	101	80-120	ug/L	
Chloroethane	<0.2300	50.00	44.83	90	70-122	ug/L	
Chloroform	<0.2100	50.00	44.43	89	77-115	ug/L	
Chloromethane	<0.3300	50.00	32.18	64	45-138	ug/L	
Cyclohexane	<0.3200	50.00	48.42	97	80-125	ug/L	
1,2-Dibromo-3-chloropropane	<0.1900	50.00	51.58	103	75-138	ug/L	
Dibromochloromethane	<0.1800	50.00	52.79	106	84-130	ug/L	
1,2-Dibromoethane	<0.2200	50.00	48.90	98	80-122	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	55.43	111	80-128	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	54.28	109	80-125	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	46.18	92	63-135	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	52.15	104	78-122	ug/L	
1,1-Dichloroethane	<0.1900	50.00	44.08	88	73-119	ug/L	
1,2-Dichloroethane	<0.1800	50.00	42.46	85	75-120	ug/L	
cis-1,2-Dichloroethene	<0.1900	50.00	48.83	98	77-120	ug/L	
1,1-Dichloroethene	<0.1800	50.00	40.78	82	70-122	ug/L	
1,2-Dichloropropane	<0.1700	50.00	46.89	94	78-122	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	51.70	103	73-133	ug/L	
trans-1,3-Dichloropropene	<0.1500	50.00	45.38	91	75-117	ug/L	
trans-1,2-Dichloroethene	<0.2900	50.00	47.64	95	76-121	ug/L	
Ethylbenzene	<0.1500	50.00	51.10	102	82-125	ug/L	
2-Hexanone (MBK)	<0.8300	50.00	43.76	88	59-144	ug/L	
Isopropylbenzene	<0.2700	50.00	53.91	108	80-131	ug/L	
Methyl Acetate	<0.5000	50.00	42.08	84	71-128	ug/L	
Methylcyclohexane	<0.1400	50.00	49.94	100	81-122	ug/L	
Methylene chloride	<0.3400	50.00	47.44	95	79-120	ug/L	
4-Methyl-2-Pentanone (MIBK)	<0.6000	50.00	43.28	87	71-125	ug/L	
Methyl-t-Butyl Ether	<0.1700	50.00	46.28	93	74-118	ug/L	
Naphthalene	<0.6000	50.00	57.70	115	59-141	ug/L	
Styrene	<0.1700	50.00	55.19	110	85-128	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	49.73	99	74-131	ug/L	
Tetrachloroethene	<0.2300	50.00	51.32	103	73-123	ug/L	
Toluene	<0.5200	50.00	48.43	97	78-118	ug/L	
1,2,3-Trichlorobenzene	<0.3000	50.00	60.49	121	80-136	ug/L	
1,2,4-Trichlorobenzene	<0.2600	50.00	62.13	124	77-137	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	47.43	95	74-119	ug/L	
Trichloroethene	<0.1900	50.00	48.93	98	78-120	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	47.47	95	81-121	ug/L	
Trichlorofluoromethane	<0.1700	50.00	40.37	81	77-119	ug/L	
1,1,2-Trichlorotrifluoroethane	<0.1700	50.00	40.37	81	71-121	ug/L	
Vinyl chloride	<0.3400	50.00	25.62	51	46-146	ug/L	
m&p-Xylene	<0.4000	100	102.6	103	83-124	ug/L	

QC Summary

Project Name Kop-Flex
PSS Project No.: 24070317

Analytical Method: SW-846 8260 D

Seq Number: 214200

MB Sample ID: 100985-1-BLK

Matrix: Water

LCS Sample ID: 100985-1-BKS

Prep Method: SW5030B

Date Prep: 07/08/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
o-Xylene	<0.1800	50.00	52.18	104	83-125	ug/L	
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	
4-Bromofluorobenzene	100		95		85-122	%	
Dibromofluoromethane	102		100		96-107	%	
Toluene-D8	99		99		95-105	%	

Project Name Kop-Flex
PSS Project No.: 24070317

Analytical Method: EPA 200.8

CCV Sample Id: CCV 1 Seq Number: 214281
Analyzed Date: 07/10/24 00:24

Parameter	CCV %Rec	Limits	Flag
Copper	102	85-115	
Lead	101	85-115	
Nickel	103	85-115	
Zinc	103	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 2 Seq Number: 214281
Analyzed Date: 07/10/24 01:32

Parameter	CCV %Rec	Limits	Flag
Copper	102	85-115	
Lead	100	85-115	
Nickel	103	85-115	
Zinc	104	85-115	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 214281
Analyzed Date: 07/09/24 23:11

Parameter	ICV %Rec	Limits	Flag
Copper	100	90-110	
Lead	101	90-110	
Nickel	99	90-110	
Zinc	100	90-110	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 210552
Analyzed Date: 02/21/24 11:47

Parameter	ICV %Rec	Limits	Flag
1,4-Dioxane	105	54-145	
Surrogate		Limits	Flag
Dibromofluoromethane	99	94-108	
4-Bromofluorobenzene	99	77-120	
Toluene-D8	99	95-104	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 212217
Analyzed Date: 04/26/24 09:32

Parameter	ICV %Rec	Limits	Flag
Acrolein	98	60-140	
Acrylonitrile	101	60-140	
Dichlorodifluoromethane	99	51-128	
Chloromethane	93	1-205	
Vinyl Chloride	93	5-195	
Bromomethane	94	15-185	
Chloroethane	95	40-160	
Trichlorofluoromethane	101	50-150	
2-Chloroethyl Vinyl Ether	91	1-225	
1,1-Dichloroethene	99	50-150	
Methylene Chloride	99	60-140	
trans-1,2-dichloroethene	101	70-130	
1,1-Dichloroethane	100	70-130	
Chloroform	97	70-135	
1,1,1-Trichloroethane	103	70-130	
Carbon Tetrachloride	105	70-130	
Benzene	101	65-135	
1,2-Dichloroethane	98	70-130	
Trichloroethene	101	65-135	
1,2-Dichloropropane	101	35-165	
Bromodichloromethane	103	65-135	
cis-1,3-Dichloropropene	113	25-175	
Toluene	101	70-130	
trans-1,3-dichloropropene	102	50-150	
1,1,2-Trichloroethane	99	70-130	

Project Name Kop-Flex

PSS Project No.: 24070317

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 212217

Analyzed Date: 04/26/24 09:32

Parameter	ICV %Rec	Limits	Flag
Tetrachloroethylene	103	70-130	
Dibromochloromethane	108	70-135	
Chlorobenzene	101	65-135	
Ethylbenzene	108	60-140	
Bromoform	112	70-130	
1,1,2,2-Tetrachloroethane	107	60-140	
1,3-Dichlorobenzene	108	70-130	
1,4-Dichlorobenzene	105	65-135	
1,2-Dichlorobenzene	108	65-135	

Surrogate		Limits	Flag
Dibromofluoromethane	99	94-108	
4-Bromofluorobenzene	102	77-120	
Toluene-D8	100	95-104	

Analytical Method: SW-846 8260 D

CCV Sample Id: CCV-01 Seq Number: 214200

Analyzed Date: 07/08/24 09:23

Parameter	CCV %Rec	Limits	Flag
Acetone	79	80-120	X
Benzene	95	80-120	
Bromochloromethane	101	80-120	
Bromodichloromethane	95	80-120	
Bromoform	112	80-120	
Bromomethane	82	80-120	
2-Butanone (MEK)	89	80-120	
Carbon Disulfide	91	80-120	
Carbon tetrachloride	100	80-120	
Chlorobenzene	101	80-120	
Chloroethane	90	80-120	
Chloroform	89	80-120	
Chloromethane	64	80-120	X
Cyclohexane	97	80-120	
1,2-Dibromo-3-chloropropane	103	80-120	
Dibromochloromethane	106	80-120	
1,2-Dibromoethane	98	80-120	
1,2-Dichlorobenzene	111	80-120	
1,3-Dichlorobenzene	109	80-120	
Dichlorodifluoromethane	92	80-120	
1,4-Dichlorobenzene	104	80-120	
1,1-Dichloroethane	88	80-120	
1,2-Dichloroethane	85	80-120	
cis-1,2-Dichloroethene	98	80-120	
1,1-Dichloroethene	82	80-120	
1,2-Dichloropropane	94	80-120	
cis-1,3-Dichloropropene	103	80-120	
trans-1,3-Dichloropropene	91	80-120	
trans-1,2-Dichloroethene	95	80-120	

Project Name Kop-Flex

PSS Project No.: 24070317

Analytical Method: SW-846 8260 D

CCV Sample Id: CCV-01 Seq Number: 214200

Analyzed Date: 07/08/24 09:23

Parameter	CCV %Rec	Limits	Flag
Ethylbenzene	102	80-120	
2-Hexanone (MBK)	88	80-120	
Isopropylbenzene	108	80-120	
Methyl Acetate	84	80-120	
Methylcyclohexane	100	80-120	
Methylene chloride	95	80-120	
4-Methyl-2-Pentanone (MIBK)	87	80-120	
Methyl-t-Butyl Ether	93	80-120	
Naphthalene	115	80-120	
Styrene	110	80-120	
1,1,2,2-Tetrachloroethane	99	80-120	
Tetrachloroethene	103	80-120	
Toluene	97	80-120	
1,2,3-Trichlorobenzene	121	80-120	X
1,2,4-Trichlorobenzene	124	80-120	X
1,1,1-Trichloroethane	95	80-120	
Trichloroethene	98	80-120	
1,1,2-Trichloroethane	95	80-120	
Trichlorofluoromethane	81	80-120	
1,1,2-Trichlorotrifluoroethane	81	80-120	
Vinyl chloride	51	80-120	X
m&p-Xylene	103	80-120	
o-Xylene	104	80-120	

Surrogate		Limits	Flag
4-Bromofluorobenzene	95	80-120	
Dibromofluoromethane	100	80-120	
Toluene-D8	99	80-120	

Analytical Method: SW-846 8260 D

Parent Sample Id: ICV-01 Seq Number: 212216

Analyzed Date: 04/26/24 09:32

Parameter	ICV %Rec	Limits	Flag
Acetone	100	70-130	
Benzene	101	70-130	
Bromochloromethane	99	70-130	
Bromodichloromethane	103	70-130	
Bromoform	112	70-130	
Bromomethane	94	70-130	
2-Butanone (MEK)	98	70-130	
Carbon Disulfide	104	70-130	
Carbon tetrachloride	105	70-130	
Chlorobenzene	101	70-130	
Chloroethane	95	70-130	
Chloroform	97	70-130	
Chloromethane	93	70-130	
Cyclohexane	107	70-130	
1,2-Dibromo-3-chloropropane	122	70-130	

Project Name Kop-Flex
PSS Project No.: 24070317

Analytical Method: SW-846 8260 D

Parent Sample Id: ICV-01 Seq Number: 212216
Analyzed Date: 04/26/24 09:32

Parameter	ICV %Rec	Limits	Flag
Dibromochloromethane	108	70-130	
1,2-Dibromoethane	105	70-130	
1,2-Dichlorobenzene	108	70-130	
1,3-Dichlorobenzene	108	70-130	
Dichlorodifluoromethane	99	70-130	
1,4-Dichlorobenzene	105	70-130	
1,1-Dichloroethane	100	70-130	
1,2-Dichloroethane	98	70-130	
cis-1,2-Dichloroethene	101	70-130	
1,1-Dichloroethene	99	70-130	
1,2-Dichloropropane	101	70-130	
cis-1,3-Dichloropropene	113	70-130	
trans-1,3-Dichloropropene	102	70-130	
trans-1,2-Dichloroethene	101	70-130	
Ethylbenzene	108	70-130	
2-Hexanone (MBK)	106	70-130	
Isopropylbenzene	115	70-130	
Methyl Acetate	97	70-130	
Methylcyclohexane	108	70-130	
Methylene chloride	99	70-130	
4-Methyl-2-Pentanone (MIBK)	107	70-130	
Methyl-t-Butyl Ether	102	70-130	
Naphthalene	117	70-130	
Styrene	112	70-130	
1,1,2,2-Tetrachloroethane	107	70-130	
Tetrachloroethene	103	70-130	
Toluene	101	70-130	
1,2,3-Trichlorobenzene	119	70-130	
1,2,4-Trichlorobenzene	118	70-130	
1,1,1-Trichloroethane	103	70-130	
Trichloroethene	101	70-130	
1,1,2-Trichloroethane	99	70-130	
Trichlorofluoromethane	101	70-130	
1,1,2-Trichlorotrifluoroethane	100	70-130	
Vinyl chloride	93	70-130	
m&p-Xylene	108	70-130	
o-Xylene	107	70-130	
Surrogate		Limits	Flag
4-Bromofluorobenzene	102	70-130	
Dibromofluoromethane	99	70-130	
Toluene-D8	100	70-130	

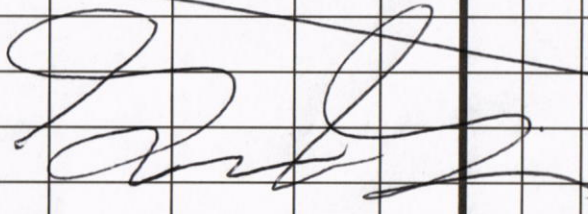
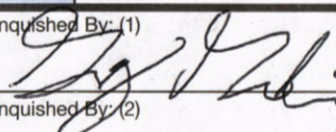
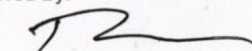
**PHASE
SEPARATION
SCIENCE**

CHAIN OF CUSTODY FORM

All fields must be completed accurately. Shaded sections for lab use only.

www.phaseonline.com ~ info@phaseonline.com

6630 Baltimore National Pike • Suite 103-A • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047

PSS CLIENT: WSP USA		OFFICE LOCATION: Herndon, VA		PSS Work Order #: 24070317		PAGE 1 OF 1				
BILL TO (if different):		PHONE #: 703-709-6500		Matrix Codes: SW=Surface Water DW=Drinking Water GW=Ground Water WW=Waste Water O=Oil S=Soil SOL=Solid A=Air WI=Wipe						
CONTACT: Eric Johnson		EMAIL: eric.johnson@wsp.com		# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes		Preservative Codes 1 - HCL 2 - H ₂ SO ₄ 3 - HNO ₃ 4 - NaOH 5 - E624KIT 6 - ICE 7 - Sodium Thiosulfate 8 - Ascorbic Acid 9 - TerraCore Kit		
PROJECT NAME: Kop-Flex		PROJECT #: 31405608.010/0202				Analysis/Method Required				
SITE LOCATION: Hanover, MD		P.O. #:								
SAMPLER(S): Greg Makris		DW CERT #:								
PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes						
1	Influent VSP-4	7/3/24		GW	6	G	③	③		
2	Effluent VSP-4	7/3/24		WW	9	G	③ ③ ① ① ①			
3	Trip blank-070324	—		TB	4	—	② ②			
										
Relinquished By: (1) 		Date: 7/3/24	Time: 12:15	Received By: 	Requested TAT (One TAT per COC) <input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input checked="" type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input checked="" type="checkbox"/> Other		Ice Present: Pres			
Relinquished By: (2)		Date:	Time: 7/3/24	Received By: TE	STATE RESULTS REPORTED TO: <input type="checkbox"/> MD <input type="checkbox"/> DE <input type="checkbox"/> PA <input type="checkbox"/> VA <input type="checkbox"/> WV <input type="checkbox"/> OTHER		# Coolers: 1 Temp: 5.9 - 8.8°C			
Relinquished By: (3)		Date:	Time:	Received By:	COMPLIANCE? <input type="checkbox"/> DW <input type="checkbox"/> WW		Shipping Carrier: Client			
Relinquished By: (4)		Date:	Time:	Received By:	EDD FORMAT TYPE		Special Instructions: Standard 10-day TAT Metals = Cu, Pb, Ni, Zn Temp Blank: 7.4°C			

This chain of custody is a legal document. The client (PSS Client), by signing, or having client's agent sign, this "Chain of Custody Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

Sample Receipt Checklist

Project Name: Kop-Flex
PSS Project No.: 24070317

Client Name WSP USA - Herndon
Disposal Date 08/07/2024

Received By Tyler Enwright
Date Received 07/03/2024 12:24 PM
Delivered By Client
Tracking # Not Applicable
Logged In By Tyler Enwright

Shipping Container(s)

of Coolers 1

Custody Seal(s) Intact? Yes
Seal(s) Signed / Dated? Yes

Ice Present
Temp (°C) 8.8
Temp Blank Present Yes

Documentation

COC agrees with sample labels? Yes
Chain of Custody Yes

Sampler Name Gregory Makris
MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes
Intact? Yes
Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? Yes

Total # of Samples Received 3
Total # of Containers Received 19

Preservation

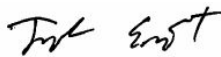
Total Metals (pH<2) Yes
Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
Orthophosphorus, filtered within 15 minutes of collection N/A
Cyanides (pH>12) N/A
Sulfide (pH>9) N/A
TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
TOX, TKN, NH3, Total Phos (pH<2) N/A
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) Yes
Do VOA vials have zero headspace? Yes
624 VOC (Rcvd at least one unpreserved VOA vial) Yes
524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, the sample ID, preservative added, documentation of any client notification, and subsequent client instructions are noted below. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C, and <=4°C for EPA 524. Samples that are received by the lab on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that thermal preservation has begun.

No sampling time on COC. Obtained from container label(s).

Samples Inspected/Checklist Completed By:



Tyler Enwright

Date: 07/03/2024

PM Review and Approval:



Amber Confer

Date: 07/03/2024

Project Name: Kop-Flex
PSS Project No.: 24082812

September 12, 2024

Eric Johnson
WSP USA - Herndon
13530 Dulles Technology Dr, Ste 300
Herndon, VA 20171



Reference: PSS Project No: **24082812**
Project Name: Kop-Flex
Project Location: Harmans, MD
Project ID.: 31405608.010/02

Dear Eric Johnson:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24082812**.


All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on October 2, 2024, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,


Dan Prucnal

Laboratory Manager



Sample Summary

Project Name: Kop-Flex
 PSS Project No.: 24082812

The following samples were received under chain of custody by Phase Separation Science (PSS) on 08/28/2024 at 01:00 pm
 Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any
 sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24082812-001	Effluent VSP-4	WASTE WATER	08/28/24 12:00
24082812-002	TB-082824	WATER	08/28/24 00:00

Report Information

Project Name: Kop-Flex
PSS Project No.: 24082812

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24082812

Sample ID: Effluent VSP-4 **Date/Time Sampled: 08/28/2024 12:00** **PSS Sample ID: 24082812-001**
Matrix: WASTE WATER **Date/Time Received: 08/28/2024 13:00**

Total Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Copper	3.1	ug/L	1.0		1	0.98	08/29/24	09/03/24 20:38	1059
Lead	ND	ug/L	1.0		1	0.66	08/29/24	09/03/24 20:38	1059
Nickel	17.4	ug/L	1.00		1	0.95	08/29/24	09/03/24 20:38	1059
Zinc	36.8	ug/L	20.0		1	7.1	08/29/24	09/03/24 20:38	1059

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	09/11/24	09/11/24 18:41	1045
Surrogate(s)	Recovery		Limits						
Dibromofluoromethane	107	%	94-108		1		09/11/24	09/11/24 18:41	1045
4-Bromofluorobenzene	74	%	77-120	*	1		09/11/24	09/11/24 18:41	1045
Toluene-D8	100	%	95-104		1		09/11/24	09/11/24 18:41	1045

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 215798 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	08/29/24	08/29/24 20:10	1045
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	08/29/24	08/29/24 20:10	1045
Acrylonitrile	ND	ug/L	5.0		1	1.5	08/29/24	08/29/24 20:10	1045
Chloromethane	ND	ug/L	1.0		1	0.33	08/29/24	08/29/24 20:10	1045
Vinyl Chloride	ND	ug/L	1.0		1	0.34	08/29/24	08/29/24 20:10	1045
Bromomethane	ND	ug/L	1.0		1	0.6	08/29/24	08/29/24 20:10	1045
Chloroethane	ND	ug/L	1.0		1	0.23	08/29/24	08/29/24 20:10	1045
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	08/29/24	08/29/24 20:10	1045
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	08/29/24	08/29/24 20:10	1045
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	08/29/24	08/29/24 20:10	1045
Methylene Chloride	ND	ug/L	1.0		1	0.34	08/29/24	08/29/24 20:10	1045
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	08/29/24	08/29/24 20:10	1045
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	08/29/24	08/29/24 20:10	1045
Chloroform	ND	ug/L	1.0		1	0.21	08/29/24	08/29/24 20:10	1045
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	08/29/24	08/29/24 20:10	1045
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	08/29/24	08/29/24 20:10	1045
Benzene	ND	ug/L	1.0		1	0.19	08/29/24	08/29/24 20:10	1045

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24082812

Sample ID: Effluent VSP-4 **Date/Time Sampled: 08/28/2024 12:00** **PSS Sample ID: 24082812-001**
Matrix: WASTE WATER **Date/Time Received: 08/28/2024 13:00**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 215798 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	08/29/24	08/29/24 20:10	1045
Trichloroethene	ND	ug/L	1.0		1	0.19	08/29/24	08/29/24 20:10	1045
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	08/29/24	08/29/24 20:10	1045
Bromodichloromethane	ND	ug/L	1.0		1	0.18	08/29/24	08/29/24 20:10	1045
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	08/29/24	08/29/24 20:10	1045
Toluene	ND	ug/L	1.0		1	0.52	08/29/24	08/29/24 20:10	1045
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	08/29/24	08/29/24 20:10	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	08/29/24	08/29/24 20:10	1045
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	08/29/24	08/29/24 20:10	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	08/29/24	08/29/24 20:10	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	08/29/24	08/29/24 20:10	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	08/29/24	08/29/24 20:10	1045
Bromoform	ND	ug/L	1.0		1	0.17	08/29/24	08/29/24 20:10	1045
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	08/29/24	08/29/24 20:10	1045
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	08/29/24	08/29/24 20:10	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	08/29/24	08/29/24 20:10	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	08/29/24	08/29/24 20:10	1045
Surrogate(s) Recovery Limits									
Dibromofluoromethane	99	%	94-108		1		08/29/24	08/29/24 20:10	1045
4-Bromofluorobenzene	105	%	77-120		1		08/29/24	08/29/24 20:10	1045
Toluene-D8	104	%	95-104		1		08/29/24	08/29/24 20:10	1045

Total Suspended Solids Analytical Method: SM 2540D -2015

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Total Suspended Solids	1.8	mg/L	1.0		1	0.41	08/29/24	08/29/24 18:23	1074

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24082812

Sample ID: TB-082824 **Date/Time Sampled: 08/28/2024 00:00** **PSS Sample ID: 24082812-002**
Matrix: WATER **Date/Time Received: 08/28/2024 13:00**

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	09/11/24	09/11/24 18:20	1045
<i>Surrogate(s)</i>	<i>Recovery</i>		<i>Limits</i>						
<i>Dibromofluoromethane</i>	107	%	94-108		1		09/11/24	09/11/24 18:20	1045
<i>4-Bromofluorobenzene</i>	77	%	77-120		1		09/11/24	09/11/24 18:20	1045
<i>Toluene-D8</i>	100	%	95-104		1		09/11/24	09/11/24 18:20	1045

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 215798 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	08/29/24	08/29/24 20:31	1045
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	08/29/24	08/29/24 20:31	1045
Acrylonitrile	ND	ug/L	5.0		1	1.5	08/29/24	08/29/24 20:31	1045
Chloromethane	ND	ug/L	1.0		1	0.33	08/29/24	08/29/24 20:31	1045
Vinyl Chloride	ND	ug/L	1.0		1	0.34	08/29/24	08/29/24 20:31	1045
Bromomethane	ND	ug/L	1.0		1	0.6	08/29/24	08/29/24 20:31	1045
Chloroethane	ND	ug/L	1.0		1	0.23	08/29/24	08/29/24 20:31	1045
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	08/29/24	08/29/24 20:31	1045
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	08/29/24	08/29/24 20:31	1045
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	08/29/24	08/29/24 20:31	1045
Methylene Chloride	ND	ug/L	1.0		1	0.34	08/29/24	08/29/24 20:31	1045
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	08/29/24	08/29/24 20:31	1045
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	08/29/24	08/29/24 20:31	1045
Chloroform	ND	ug/L	1.0		1	0.21	08/29/24	08/29/24 20:31	1045
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	08/29/24	08/29/24 20:31	1045
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	08/29/24	08/29/24 20:31	1045
Benzene	ND	ug/L	1.0		1	0.19	08/29/24	08/29/24 20:31	1045
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	08/29/24	08/29/24 20:31	1045
Trichloroethene	ND	ug/L	1.0		1	0.19	08/29/24	08/29/24 20:31	1045
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	08/29/24	08/29/24 20:31	1045
Bromodichloromethane	ND	ug/L	1.0		1	0.18	08/29/24	08/29/24 20:31	1045
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	08/29/24	08/29/24 20:31	1045
Toluene	ND	ug/L	1.0		1	0.52	08/29/24	08/29/24 20:31	1045
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	08/29/24	08/29/24 20:31	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	08/29/24	08/29/24 20:31	1045

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24082812

Sample ID: TB-082824 **Date/Time Sampled: 08/28/2024 00:00** **PSS Sample ID: 24082812-002**
Matrix: WATER **Date/Time Received: 08/28/2024 13:00**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 215798 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	08/29/24	08/29/24 20:31	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	08/29/24	08/29/24 20:31	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	08/29/24	08/29/24 20:31	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	08/29/24	08/29/24 20:31	1045
Bromoform	ND	ug/L	1.0		1	0.17	08/29/24	08/29/24 20:31	1045
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	08/29/24	08/29/24 20:31	1045
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	08/29/24	08/29/24 20:31	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	08/29/24	08/29/24 20:31	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	08/29/24	08/29/24 20:31	1045
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	99 %		94-108		1		08/29/24	08/29/24 20:31	1045
<i>4-Bromofluorobenzene</i>	104 %		77-120		1		08/29/24	08/29/24 20:31	1045
<i>Toluene-D8</i>	104 %		95-104		1		08/29/24	08/29/24 20:31	1045

Case Narrative

Project Name: Kop-Flex

PSS Project No.: 24082812

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

Analytical:

Volatile Organics Compounds

Batch: 215798

Matrix spike/matrix spike duplicate (MS/MSD) exceedances identified for 2-Chloroethyl Vinyl Ether due to spike in acidified vial (Trip Blank) ; see QC summary.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

EPA 624 .1: 1,4-Dioxane

Lab Chronology

Project Name: Kop-Flex
 PSS Project No.: 24082812

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 200.8	24082812-001	111	Initial	W	101757	215841	08/29/2024 14:00	09/03/2024 20:38
	101757-1-BKS		BKS	W	101757	215841	08/29/2024 14:00	09/03/2024 19:40
	101757-1-BLK		BLK	W	101757	215841	08/29/2024 14:00	09/03/2024 19:34
	24082701-001 S	664	MS	W	101757	215841	08/29/2024 14:00	09/03/2024 19:50
	24082701-001 SD	664	MSD	W	101757	215841	08/29/2024 14:00	09/03/2024 20:11
EPA 624 .1	24082812-001	112	Initial	W	101797	215798	08/29/2024 11:28	08/29/2024 20:10
	24082812-002	118	Initial	W	101797	215798	08/29/2024 11:28	08/29/2024 20:31
	101797-1-BKS		BKS	W	101797	215798	08/29/2024 11:28	08/29/2024 12:10
	101797-1-BLK		BLK	W	101797	215798	08/29/2024 11:28	08/29/2024 14:36
	101797-1-BSD		BSD	W	101797	215798	08/29/2024 11:28	08/29/2024 12:31
	24082812-002 S	112	MS	W	101797	215798	08/29/2024 11:28	08/29/2024 20:52
	24082812-002 SD	112	MSD	W	101797	215798	08/29/2024 11:28	08/29/2024 21:13
EPA 624 .1	24082812-001	115	Initial	W	101918	216031	09/12/2024 13:06	09/11/2024 18:41
	24082812-002	121	Initial	W	101918	216031	09/12/2024 13:06	09/11/2024 18:20
	101918-1-BKS		BKS	W	101918	216031	09/12/2024 13:06	09/11/2024 15:26
	101918-1-BLK		BLK	W	101918	216031	09/12/2024 13:06	09/11/2024 17:59
	101918-1-BSD		BSD	W	101918	216031	09/12/2024 13:06	09/11/2024 15:47
	24082812-002 S	118	MS	W	101918	216031	09/12/2024 13:06	09/11/2024 16:36
	24082812-002 SD	118	MSD	W	101918	216031	09/12/2024 13:06	09/11/2024 16:57
SM 2540D -2015	24082812-001	110	Initial	W	215738	215738	08/29/2024 18:23	08/29/2024 18:23
	215738-1-BKS		BKS	W	215738	215738	08/29/2024 18:23	08/29/2024 18:23
	215738-1-BLK		BLK	W	215738	215738	08/29/2024 18:23	08/29/2024 18:23
	24082702-001 D	731	MD	W	215738	215738	08/29/2024 18:23	08/29/2024 18:23

Project Name Kop-Flex
PSS Project No.: 24082812

Analytical Method: SM 2540D -2015

Seq Number: 215738 Matrix: Water
MB Sample ID: 215738-1-BLK LCS Sample ID: 215738-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Total Suspended Solids	<0.4000	105.7	105.6	100	88-109	mg/L	

Analytical Method: EPA 200.8

Seq Number: 215841 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 101757-1-BLK LCS Sample ID: 101757-1-BKS Date Prep: 08/29/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Copper	<0.9800	50.00	54.80	110	85-115	ug/L	
Lead	<0.6600	50.00	54.34	109	85-115	ug/L	
Nickel	<0.9500	50.00	51.86	104	85-115	ug/L	
Zinc	<7.100	100	111.5	112	85-115	ug/L	

Project Name Kop-Flex
PSS Project No.: 24082812

Analytical Method: EPA 624 .1

Seq Number: 215798

MB Sample ID: 101797-1-BLK

Matrix: Water

LCS Sample ID: 101797-1-BKS

Prep Method: E624PREP

Date Prep: 08/29/24

LCSD Sample ID: 101797-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acrolein	<1.700	50.00	56.98	114	52.17	104	60-140	9	20	ug/L	
Acrylonitrile	<1.500	50.00	50.94	102	46.96	94	60-140	8	20	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	31.20	62	27.69	55	51-128	12	20	ug/L	
Chloromethane	<0.3300	50.00	41.39	83	37.29	75	1-205	10	20	ug/L	
Vinyl Chloride	<0.3400	50.00	49.48	99	43.39	87	5-195	13	20	ug/L	
Bromomethane	<0.6000	50.00	49.89	100	45.75	92	15-185	9	20	ug/L	
Chloroethane	<0.2300	50.00	46.73	93	42.54	85	40-160	9	20	ug/L	
Trichlorofluoromethane	<0.1700	50.00	45.28	91	40.49	81	50-150	11	20	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	17.18	34	15.67	31	1-225	9	20	ug/L	
1,1-Dichloroethene	<0.1800	50.00	47.94	96	42.91	86	50-150	11	20	ug/L	
Methylene Chloride	<0.3400	50.00	51.84	104	48.48	97	60-140	7	20	ug/L	
trans-1,2-dichloroethene	<0.2900	50.00	51.14	102	46.43	93	70-130	10	20	ug/L	
1,1-Dichloroethane	<0.1900	50.00	48.82	98	44.75	90	70-130	9	20	ug/L	
Chloroform	<0.2100	50.00	50.61	101	46.65	93	70-135	8	20	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	49.40	99	44.76	90	70-130	10	20	ug/L	
Carbon Tetrachloride	<0.2200	50.00	50.04	100	45.20	90	70-130	10	20	ug/L	
Benzene	<0.1900	50.00	49.30	99	45.68	91	65-135	8	20	ug/L	
1,2-Dichloroethane	<0.1800	50.00	49.81	100	46.58	93	70-130	7	20	ug/L	
Trichloroethene	<0.1900	50.00	49.51	99	45.37	91	65-135	9	20	ug/L	
1,2-Dichloropropane	<0.1700	50.00	49.21	98	45.98	92	35-165	7	20	ug/L	
Bromodichloromethane	<0.1800	50.00	51.98	104	48.35	97	65-135	7	20	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	54.08	108	50.52	101	25-175	7	20	ug/L	
Toluene	<0.5200	50.00	52.87	106	48.86	98	70-130	8	20	ug/L	
trans-1,3-dichloropropene	<0.1500	50.00	54.76	110	51.31	103	50-150	7	20	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	49.96	100	46.86	94	70-130	6	20	ug/L	
Tetrachloroethylene	<0.2300	50.00	54.06	108	49.21	98	70-130	9	20	ug/L	
Dibromochloromethane	<0.1800	50.00	50.15	100	47.23	94	70-135	6	20	ug/L	
Chlorobenzene	<0.2300	50.00	50.33	101	47.09	94	65-135	7	20	ug/L	
Ethylbenzene	<0.1500	50.00	53.04	106	48.75	98	60-140	8	20	ug/L	
Bromoform	<0.1700	50.00	51.90	104	48.93	98	70-130	6	20	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	43.70	87	41.61	83	60-140	5	20	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	50.44	101	47.46	95	70-130	6	20	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	48.79	98	45.86	92	65-135	6	20	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	50.38	101	47.81	96	65-135	5	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Dibromofluoromethane	99		100		100		94-108	%
4-Bromofluorobenzene	103		94		96		77-120	%
Toluene-D8	103		105	*	105	*	95-104	%

QC Summary

Project Name Kop-Flex
PSS Project No.: 24082812

Analytical Method: EPA 624 .1

Seq Number: 216031

MB Sample ID: 101918-1-BLK

Matrix: Water

LCS Sample ID: 101918-1-BKS

Prep Method: E624PREP

Date Prep: 09/12/24

LCSD Sample ID: 101918-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<26.00	30.00	35.91	120	34.82	116	54-145	3	20	ug/L	
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units			
Dibromofluoromethane	107		106		106		94-108	%			
4-Bromofluorobenzene	73	*	75	*	75	*	77-120	%			
Toluene-D8	99		99		98		95-104	%			

Project Name Kop-Flex

PSS Project No.: 24082812

Analytical Method: EPA 624 .1

Seq Number: 215798

Parent Sample ID: 24082812-002

Matrix: Waste Water

MS Sample ID: 24082812-002 S

Prep Method: E624PREP

Date Prep: 08/29/24

MSD Sample ID: 24082812-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acrolein	<1.700	50.00	41.78	84	44.07	88	40-160	5	60	ug/L	
Acrylonitrile	<1.500	50.00	45.66	91	47.73	95	40-160	4	60	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	37.73	75	36.84	74	49-132	2	14	ug/L	
Chloromethane	<0.3300	50.00	45.16	90	43.31	87	1-273	4	60	ug/L	
Vinyl Chloride	<0.3400	50.00	54.48	109	51.87	104	1-251	5	66	ug/L	
Bromomethane	<0.6000	50.00	44.57	89	48.59	97	1-242	9	61	ug/L	
Chloroethane	<0.2300	50.00	49.45	99	47.66	95	14-230	4	78	ug/L	
Trichlorofluoromethane	<0.1700	50.00	47.54	95	46.46	93	17-181	2	84	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	<1.000	0	<1.000	0	1-305	NC	71	ug/L	X
1,1-Dichloroethene	<0.1800	50.00	46.38	93	48.46	97	1-234	4	32	ug/L	
Methylene Chloride	<0.3400	50.00	50.72	101	50.64	101	1-221	0	28	ug/L	
trans-1,2-dichloroethene	<0.2900	50.00	49.86	100	49.47	99	54-156	1	45	ug/L	
1,1-Dichloroethane	<0.1900	50.00	46.67	93	46.65	93	59-155	0	40	ug/L	
Chloroform	<0.2100	50.00	48.11	96	47.78	96	51-138	1	54	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	47.37	95	47.39	95	52-162	0	36	ug/L	
Carbon Tetrachloride	<0.2200	50.00	48.60	97	48.07	96	70-140	1	41	ug/L	
Benzene	<0.1900	50.00	47.87	96	47.47	95	37-151	1	61	ug/L	
1,2-Dichloroethane	<0.1800	50.00	46.30	93	46.43	93	49-155	0	49	ug/L	
Trichloroethene	<0.1900	50.00	47.05	94	47.23	94	70-157	0	48	ug/L	
1,2-Dichloropropane	<0.1700	50.00	45.95	92	45.98	92	1-210	0	55	ug/L	
Bromodichloromethane	<0.1800	50.00	47.66	95	47.91	96	35-155	1	56	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	48.80	98	49.45	99	1-227	1	58	ug/L	
Toluene	<0.5200	50.00	50.92	102	50.48	101	47-150	1	41	ug/L	
trans-1,3-dichloropropene	<0.1500	50.00	48.53	97	49.61	99	17-183	2	86	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	45.31	91	45.61	91	52-150	1	45	ug/L	
Tetrachloroethylene	<0.2300	50.00	52.11	104	51.68	103	64-148	1	39	ug/L	
Dibromochloromethane	<0.1800	50.00	45.06	90	46.03	92	53-149	2	50	ug/L	
Chlorobenzene	<0.2300	50.00	47.23	94	47.42	95	37-160	0	53	ug/L	
Ethylbenzene	<0.1500	50.00	49.96	100	49.58	99	37-162	1	63	ug/L	
Bromoform	<0.1700	50.00	46.42	93	47.74	95	45-169	3	42	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	39.39	79	40.55	81	46-157	3	61	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	46.51	93	46.43	93	59-156	0	43	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	44.47	89	44.80	90	18-190	1	57	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	46.13	92	46.38	93	18-190	1	57	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	99		100		94-108	%
4-Bromofluorobenzene	94		94		77-120	%
Toluene-D8	106	*	106	*	95-104	%

QC Summary

Project Name Kop-Flex
PSS Project No.: 24082812

Analytical Method: EPA 624 .1

Seq Number: 216031
Parent Sample ID: 24082812-002

Matrix: Water
MS Sample ID: 24082812-002 S

Prep Method: E624PREP
Date Prep: 09/12/24
MSD Sample ID: 24082812-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<1.000	30.00	29.62	99	32.11	107	59-145	8	18	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	106		105		94-108	%
4-Bromofluorobenzene	75	*	73	*	77-120	%
Toluene-D8	99		99		95-104	%

Project Name Kop-Flex
PSS Project No.: 24082812

Analytical Method: EPA 200.8

CCV Sample Id: CCV 2 Seq Number: 215841
Analyzed Date: 09/03/24 19:00

Parameter	CCV %Rec	Limits	Flag
Copper	103	85-115	
Lead	103	85-115	
Nickel	100	85-115	
Zinc	102	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 3 Seq Number: 215841
Analyzed Date: 09/03/24 20:01

Parameter	CCV %Rec	Limits	Flag
Copper	103	85-115	
Lead	104	85-115	
Nickel	100	85-115	
Zinc	102	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 4 Seq Number: 215841
Analyzed Date: 09/03/24 21:10

Parameter	CCV %Rec	Limits	Flag
Copper	103	85-115	
Lead	102	85-115	
Nickel	100	85-115	
Zinc	102	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 5 Seq Number: 215841
Analyzed Date: 09/03/24 22:15

Parameter	CCV %Rec	Limits	Flag
Copper	103	85-115	
Lead	103	85-115	
Nickel	100	85-115	
Zinc	101	85-115	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 215841
Analyzed Date: 09/03/24 16:43

Parameter	ICV %Rec	Limits	Flag
Copper	104	90-110	
Lead	104	90-110	
Nickel	100	90-110	
Zinc	102	90-110	

Analytical Method: EPA 624 .1

CCV Sample Id: CCV, VOC-1 Seq Number: 215798
Analyzed Date: 08/29/24 11:49

Parameter	CCV %Rec	Limits	Flag
Acrolein	111	60-140	
Acrylonitrile	99	60-140	
Dichlorodifluoromethane	81	59-110	
Chloromethane	93	1-205	
Vinyl Chloride	110	43-133	
Bromomethane	97	15-185	
Chloroethane	96	40-160	
Trichlorofluoromethane	95	70-130	
2-Chloroethyl Vinyl Ether	34	1-225	
1,1-Dichloroethene	92	50-150	
Methylene Chloride	102	76-125	
trans-1,2-dichloroethene	100	70-124	
1,1-Dichloroethane	95	70-130	
Chloroform	99	70-135	
1,1,1-Trichloroethane	96	70-130	
Carbon Tetrachloride	99	70-130	

Project Name Kop-Flex
PSS Project No.: 24082812

Analytical Method: EPA 624 .1

CCV Sample Id: CCV, VOC-1 Seq Number: 215798
Analyzed Date: 08/29/24 11:49

Parameter	CCV %Rec	Limits	Flag
Benzene	96	65-135	
1,2-Dichloroethane	97	70-130	
Trichloroethene	96	69-126	
1,2-Dichloropropane	95	35-165	
Bromodichloromethane	101	65-135	
cis-1,3-Dichloropropene	104	70-135	
Toluene	101	48-135	
trans-1,3-dichloropropene	105	39-176	
1,1,2-Trichloroethane	97	70-130	
Tetrachloroethylene	103	69-126	
Dibromochloromethane	97	51-128	
Chlorobenzene	96	65-135	
Ethylbenzene	102	71-124	
Bromoform	101	70-130	
1,1,2,2-Tetrachloroethane	81	60-140	
1,3-Dichlorobenzene	92	70-130	
1,4-Dichlorobenzene	89	65-135	
1,2-Dichlorobenzene	92	65-135	
Surrogate		Limits	Flag
Dibromofluoromethane	101	94-108	
4-Bromofluorobenzene	93	77-120	
Toluene-D8	105	95-104	X

Analytical Method: EPA 624 .1

CCV Sample Id: CCV, 1,4-DIOX Seq Number: 216031
Analyzed Date: 09/11/24 15:05

Parameter	CCV %Rec	Limits	Flag
1,4-Dioxane	113	54-145	
Surrogate		Limits	Flag
Dibromofluoromethane	106	94-108	
4-Bromofluorobenzene	76	77-120	X
Toluene-D8	99	95-104	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 214976
Analyzed Date: 08/05/24 14:21

Parameter	ICV %Rec	Limits	Flag
Acrolein	105	60-140	
Acrylonitrile	92	60-140	
Dichlorodifluoromethane	99	51-128	
Chloromethane	99	1-205	
Vinyl Chloride	114	5-195	
Bromomethane	117	15-185	
Chloroethane	95	40-160	
Trichlorofluoromethane	106	50-150	
2-Chloroethyl Vinyl Ether	91	1-225	
1,1-Dichloroethene	103	50-150	
Methylene Chloride	95	60-140	
trans-1,2-dichloroethene	106	70-130	
1,1-Dichloroethane	103	70-130	
Chloroform	103	70-135	
1,1,1-Trichloroethane	106	70-130	
Carbon Tetrachloride	108	70-130	
Benzene	103	65-135	
1,2-Dichloroethane	100	70-130	
Trichloroethene	105	65-135	
1,2-Dichloropropane	105	35-165	

Project Name Kop-Flex
PSS Project No.: 24082812

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 214976
Analyzed Date: 08/05/24 14:21

Parameter	ICV %Rec	Limits	Flag
Bromodichloromethane	108	65-135	
cis-1,3-Dichloropropene	114	25-175	
Toluene	104	70-130	
trans-1,3-dichloropropene	115	50-150	
1,1,2-Trichloroethane	102	70-130	
Tetrachloroethylene	107	70-130	
Dibromochloromethane	110	70-135	
Chlorobenzene	105	65-135	
Ethylbenzene	111	60-140	
Bromoform	110	70-130	
1,1,2,2-Tetrachloroethane	101	60-140	
1,3-Dichlorobenzene	108	70-130	
1,4-Dichlorobenzene	106	65-135	
1,2-Dichlorobenzene	108	65-135	
Surrogate		Limits	Flag
Dibromofluoromethane	99	94-108	
4-Bromofluorobenzene	100	77-120	
Toluene-D8	100	95-104	

Analytical Method: SW-846 8260 D-SIM

CCV Sample Id: CCV-01 Seq Number: 213088
Analyzed Date: 05/25/24 15:01

Parameter	CCV %Rec	Limits	Flag
1,4-Dioxane (P-Dioxane)	107	80-120	
Surrogate		Limits	Flag
Toluene-D8	104	80-120	

Analytical Method: SW-846 8260 D-SIM

Parent Sample Id: ICV-01 Seq Number: 213088
Analyzed Date: 05/25/24 14:39

Parameter	ICV %Rec	Limits	Flag
1,4-Dioxane (P-Dioxane)	104	70-130	
Surrogate		Limits	Flag
Toluene-D8	102	80-120	

Sample Receipt Checklist

Project Name: Kop-Flex
PSS Project No.: 24082812

Client Name WSP USA - Herndon
Disposal Date 10/02/2024

Received By Tyler Enwright
Date Received 08/28/2024 01:00 PM
Delivered By Client
Tracking # Not Applicable
Logged In By Tyler Enwright

Shipping Container(s)

of Coolers 1

Custody Seal(s) Intact? N/A
Seal(s) Signed / Dated? N/A

Ice Present
Temp (°C) 17.6
Temp Blank Present Yes

Documentation

COC agrees with sample labels? Yes
Chain of Custody Yes

Sampler Name Gregory Makris
MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes
Intact? Yes
Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? Yes

Total # of Samples Received 2
Total # of Containers Received 12

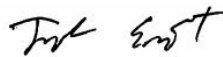
Preservation

Total Metals (pH<2) Yes
Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
Orthophosphorus, filtered within 15 minutes of collection N/A
Cyanides (pH>12) N/A
Sulfide (pH>9) N/A
TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
TOX, TKN, NH3, Total Phos (pH<2) N/A
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) Yes
Do VOA vials have zero headspace? Yes
624 VOC (Rcvd at least one unpreserved VOA vial) Yes
524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, the sample ID, preservative added, documentation of any client notification, and subsequent client instructions are noted below. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C, and <=4°C for EPA 524. Samples that are received by the lab on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that thermal preservation has begun.

Samples Inspected/Checklist Completed By:



Tyler Enwright

Date: 08/28/2024

PM Review and Approval:



Amber Confer

Date: 08/28/2024

Project Name: Kop-Flex
PSS Project No.: 24091225

September 26, 2024

Eric Johnson
WSP USA - Herndon
13530 Dulles Technology Dr, Ste 300
Herndon, VA 20171



Reference: PSS Project No: **24091225**
Project Name: Kop-Flex
Project Location: Harmans, MD
Project ID.: 31405603.010/02

Dear Eric Johnson:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24091225**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on October 17, 2024, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,


Dan Prucnal

Laboratory Manager



Sample Summary

Project Name: Kop-Flex
 PSS Project No.: 24091225

The following samples were received under chain of custody by Phase Separation Science (PSS) on 09/12/2024 at 03:30 pm
 Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any
 sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24091225-001	Effluent VSP-4	WASTE WATER	09/12/24 14:45
24091225-002	TB-091224	WATER	09/12/24 00:00

Report Information

Project Name: Kop-Flex
PSS Project No.: 24091225

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24091225

Sample ID: Effluent VSP-4 **Date/Time Sampled: 09/12/2024 14:45** **PSS Sample ID: 24091225-001**
Matrix: WASTE WATER **Date/Time Received: 09/12/2024 15:30**

Total Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Copper	3.6	ug/L	1.0		1	0.98	09/12/24	09/13/24 14:03	1059
Lead	ND	ug/L	1.0		1	0.66	09/12/24	09/13/24 14:03	1059
Nickel	5.0	ug/L	1.0		1	0.95	09/12/24	09/13/24 14:03	1059
Zinc	16.2	ug/L	20.0	J	1	7.1	09/12/24	09/13/24 14:03	1059

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	09/25/24	09/25/24 23:10	1045
Surrogate(s)	Recovery		Limits						
Dibromofluoromethane	107	%	94-108		1		09/25/24	09/25/24 23:10	1045
4-Bromofluorobenzene	76	%	77-120	*	1		09/25/24	09/25/24 23:10	1045
Toluene-D8	101	%	95-104		1		09/25/24	09/25/24 23:10	1045

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=6

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	09/12/24	09/12/24 19:40	1045
Acrylonitrile	ND	ug/L	5.0		1	1.5	09/12/24	09/12/24 19:40	1045
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	09/12/24	09/12/24 19:40	1045
Chloromethane	ND	ug/L	1.0		1	0.33	09/12/24	09/12/24 19:40	1045
Vinyl Chloride	ND	ug/L	1.0		1	0.34	09/12/24	09/12/24 19:40	1045
Bromomethane	ND	ug/L	1.0		1	0.6	09/12/24	09/12/24 19:40	1045
Chloroethane	ND	ug/L	1.0		1	0.23	09/12/24	09/12/24 19:40	1045
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	09/12/24	09/12/24 19:40	1045
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	09/12/24	09/12/24 19:40	1045
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	09/12/24	09/12/24 19:40	1045
Methylene Chloride	ND	ug/L	1.0		1	0.34	09/12/24	09/12/24 19:40	1045
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	09/12/24	09/12/24 19:40	1045
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	09/12/24	09/12/24 19:40	1045
Chloroform	ND	ug/L	1.0		1	0.21	09/12/24	09/12/24 19:40	1045
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	09/12/24	09/12/24 19:40	1045
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	09/12/24	09/12/24 19:40	1045
Benzene	ND	ug/L	1.0		1	0.19	09/12/24	09/12/24 19:40	1045

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24091225

Sample ID: Effluent VSP-4 **Date/Time Sampled: 09/12/2024 14:45** **PSS Sample ID: 24091225-001**
Matrix: WASTE WATER **Date/Time Received: 09/12/2024 15:30**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=6

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	09/12/24	09/12/24 19:40	1045
Trichloroethene	ND	ug/L	1.0		1	0.19	09/12/24	09/12/24 19:40	1045
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	09/12/24	09/12/24 19:40	1045
Bromodichloromethane	ND	ug/L	1.0		1	0.18	09/12/24	09/12/24 19:40	1045
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	09/12/24	09/12/24 19:40	1045
Toluene	ND	ug/L	1.0		1	0.52	09/12/24	09/12/24 19:40	1045
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	09/12/24	09/12/24 19:40	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	09/12/24	09/12/24 19:40	1045
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	09/12/24	09/12/24 19:40	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	09/12/24	09/12/24 19:40	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	09/12/24	09/12/24 19:40	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	09/12/24	09/12/24 19:40	1045
Bromoform	ND	ug/L	1.0		1	0.17	09/12/24	09/12/24 19:40	1045
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	09/12/24	09/12/24 19:40	1045
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	09/12/24	09/12/24 19:40	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	09/12/24	09/12/24 19:40	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	09/12/24	09/12/24 19:40	1045

Surrogate(s)	Recovery	Limits	Dil	Prepared	Analyzed	Analyst
Dibromofluoromethane	104 %	94-108	1	09/12/24	09/12/24 19:40	1045
4-Bromofluorobenzene	94 %	77-120	1	09/12/24	09/12/24 19:40	1045
Toluene-D8	103 %	95-104	1	09/12/24	09/12/24 19:40	1045

Total Suspended Solids Analytical Method: SM 2540D -2015

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Total Suspended Solids	1.8	mg/L	1.0		1	0.41	09/13/24	09/13/24 13:35	1074

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24091225

Sample ID: TB-091224 **Date/Time Sampled: 09/12/2024 00:00** **PSS Sample ID: 24091225-002**
Matrix: WATER **Date/Time Received: 09/12/2024 15:30**

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	09/25/24	09/25/24 23:31	1045
Surrogate(s)	Recovery		Limits						
Dibromofluoromethane	107	%	94-108		1		09/25/24	09/25/24 23:31	1045
4-Bromofluorobenzene	77	%	77-120		1		09/25/24	09/25/24 23:31	1045
Toluene-D8	99	%	95-104		1		09/25/24	09/25/24 23:31	1045

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	09/12/24	09/12/24 20:01	1045
Acrylonitrile	ND	ug/L	5.0		1	1.5	09/12/24	09/12/24 20:01	1045
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	09/12/24	09/12/24 20:01	1045
Chloromethane	ND	ug/L	1.0		1	0.33	09/12/24	09/12/24 20:01	1045
Vinyl Chloride	ND	ug/L	1.0		1	0.34	09/12/24	09/12/24 20:01	1045
Bromomethane	ND	ug/L	1.0		1	0.6	09/12/24	09/12/24 20:01	1045
Chloroethane	ND	ug/L	1.0		1	0.23	09/12/24	09/12/24 20:01	1045
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	09/12/24	09/12/24 20:01	1045
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	09/12/24	09/12/24 20:01	1045
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	09/12/24	09/12/24 20:01	1045
Methylene Chloride	ND	ug/L	1.0		1	0.34	09/12/24	09/12/24 20:01	1045
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	09/12/24	09/12/24 20:01	1045
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	09/12/24	09/12/24 20:01	1045
Chloroform	ND	ug/L	1.0		1	0.21	09/12/24	09/12/24 20:01	1045
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	09/12/24	09/12/24 20:01	1045
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	09/12/24	09/12/24 20:01	1045
Benzene	ND	ug/L	1.0		1	0.19	09/12/24	09/12/24 20:01	1045
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	09/12/24	09/12/24 20:01	1045
Trichloroethene	ND	ug/L	1.0		1	0.19	09/12/24	09/12/24 20:01	1045
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	09/12/24	09/12/24 20:01	1045
Bromodichloromethane	ND	ug/L	1.0		1	0.18	09/12/24	09/12/24 20:01	1045
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	09/12/24	09/12/24 20:01	1045
Toluene	ND	ug/L	1.0		1	0.52	09/12/24	09/12/24 20:01	1045
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	09/12/24	09/12/24 20:01	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	09/12/24	09/12/24 20:01	1045

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24091225

Sample ID: TB-091224 **Date/Time Sampled: 09/12/2024 00:00** **PSS Sample ID: 24091225-002**
Matrix: WATER **Date/Time Received: 09/12/2024 15:30**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	09/12/24	09/12/24 20:01	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	09/12/24	09/12/24 20:01	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	09/12/24	09/12/24 20:01	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	09/12/24	09/12/24 20:01	1045
Bromoform	ND	ug/L	1.0		1	0.17	09/12/24	09/12/24 20:01	1045
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	09/12/24	09/12/24 20:01	1045
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	09/12/24	09/12/24 20:01	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	09/12/24	09/12/24 20:01	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	09/12/24	09/12/24 20:01	1045
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	105 %		94-108		1		09/12/24	09/12/24 20:01	1045
<i>4-Bromofluorobenzene</i>	94 %		77-120		1		09/12/24	09/12/24 20:01	1045
<i>Toluene-D8</i>	100 %		95-104		1		09/12/24	09/12/24 20:01	1045

Case Narrative

Project Name: Kop-Flex

PSS Project No.: 24091225

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

EPA 624 .1: 1,4-Dioxane

Lab Chronology

Project Name: Kop-Flex
 PSS Project No.: 24091225

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 200.8	24091225-001	345	Initial	W	101926	216106	09/12/2024 18:42	09/13/2024 14:03
	101926-1-BKS		BKS	W	101926	216106	09/12/2024 18:42	09/13/2024 13:31
	101926-1-BLK		BLK	W	101926	216106	09/12/2024 18:42	09/13/2024 13:25
	24091104-002 S	175	MS	W	101926	216106	09/12/2024 18:42	09/13/2024 13:41
	24091104-002 SD	175	MSD	W	101926	216106	09/12/2024 18:42	09/13/2024 13:47
EPA 624 .1	24091225-001	347	Initial	W	101930	216066	09/12/2024 15:50	09/12/2024 19:40
	24091225-002	355	Initial	W	101930	216066	09/12/2024 15:50	09/12/2024 20:01
	101930-1-BKS		BKS	W	101930	216066	09/12/2024 15:50	09/12/2024 16:11
	101930-1-BLK		BLK	W	101930	216066	09/12/2024 15:50	09/12/2024 17:55
	101930-1-BSD		BSD	W	101930	216066	09/12/2024 15:50	09/12/2024 16:31
	24090612-001 S	860	MS	W	101930	216066	09/12/2024 15:50	09/12/2024 21:03
	24090612-001 SD	860	MSD	W	101930	216066	09/12/2024 15:50	09/12/2024 21:24
EPA 624 .1	24091225-001	349	Initial	W	102094	216400	09/25/2024 20:44	09/25/2024 23:10
	24091225-002	352	Initial	W	102094	216400	09/25/2024 20:44	09/25/2024 23:31
	102094-1-BKS		BKS	W	102094	216400	09/25/2024 20:44	09/25/2024 21:05
	102094-1-BLK		BLK	W	102094	216400	09/25/2024 20:44	09/25/2024 22:49
	102094-1-BSD		BSD	W	102094	216400	09/25/2024 20:44	09/25/2024 21:26
	24091225-001 S	349	MS	W	102094	216400	09/25/2024 20:44	09/25/2024 21:47
	24091225-001 SD	349	MSD	W	102094	216400	09/25/2024 20:44	09/25/2024 22:07
SM 2540D -2015	24091225-001	344	Initial	W	216065	216065	09/13/2024 13:35	09/13/2024 13:35
	216065-1-BKS		BKS	W	216065	216065	09/13/2024 13:35	09/13/2024 13:35
	216065-1-BLK		BLK	W	216065	216065	09/13/2024 13:35	09/13/2024 13:35
	24091102-001 D	166	MD	W	216065	216065	09/13/2024 13:35	09/13/2024 13:35

QC Summary

Project Name Kop-Flex
PSS Project No.: 24091225

Analytical Method: SM 2540D -2015

Seq Number: 216065 Matrix: Water
MB Sample ID: 216065-1-BLK LCS Sample ID: 216065-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Total Suspended Solids	<0.4000	106.5	105.1	99	88-109	mg/L	

Analytical Method: EPA 200.8

Seq Number: 216106 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 101926-1-BLK LCS Sample ID: 101926-1-BKS Date Prep: 09/12/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Copper	<0.9800	50.00	50.65	101	85-115	ug/L	
Lead	<0.6600	50.00	50.84	102	85-115	ug/L	
Nickel	<0.9500	50.00	49.12	98	85-115	ug/L	
Zinc	<7.100	100	99.74	100	85-115	ug/L	

Project Name Kop-Flex

PSS Project No.: 24091225

Analytical Method: EPA 624 .1

Seq Number: 216066

MB Sample ID: 101930-1-BLK

Matrix: Water

LCS Sample ID: 101930-1-BKS

Prep Method: E624PREP

Date Prep: 09/12/24

LCSD Sample ID: 101930-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acrolein	<1.700	50.00	52.81	106	52.61	105	60-140	0	20	ug/L	
Acrylonitrile	<1.500	50.00	47.44	95	47.44	95	60-140	0	20	ug/L	
Dichlorodifluoromethane	<1.000	50.00	32.45	65	31.28	63	51-128	4	20	ug/L	
Chloromethane	<1.000	50.00	30.20	60	29.69	59	1-205	2	20	ug/L	
Vinyl Chloride	<1.000	50.00	43.42	87	42.38	85	5-195	2	20	ug/L	
Bromomethane	<1.000	50.00	50.00	100	49.59	99	15-185	1	20	ug/L	
Chloroethane	<1.000	50.00	45.54	91	45.31	91	40-160	1	20	ug/L	
Trichlorofluoromethane	<1.000	50.00	47.43	95	46.93	94	50-150	1	20	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	32.93	66	33.50	67	1-225	2	20	ug/L	
1,1-Dichloroethene	<1.000	50.00	45.36	91	44.76	90	50-150	1	20	ug/L	
Methylene Chloride	<1.000	50.00	49.56	99	49.61	99	60-140	0	20	ug/L	
trans-1,2-dichloroethene	<1.000	50.00	49.51	99	49.79	100	70-130	1	20	ug/L	
1,1-Dichloroethane	<1.000	50.00	45.04	90	44.84	90	70-130	0	20	ug/L	
Chloroform	<1.000	50.00	49.26	99	49.05	98	70-135	0	20	ug/L	
1,1,1-Trichloroethane	<1.000	50.00	48.30	97	48.33	97	70-130	0	20	ug/L	
Carbon Tetrachloride	<1.000	50.00	51.36	103	51.40	103	70-130	0	20	ug/L	
Benzene	<1.000	50.00	46.45	93	46.06	92	65-135	1	20	ug/L	
1,2-Dichloroethane	<1.000	50.00	48.40	97	47.85	96	70-130	1	20	ug/L	
Trichloroethene	<1.000	50.00	49.57	99	49.46	99	65-135	0	20	ug/L	
1,2-Dichloropropane	<1.000	50.00	46.31	93	45.82	92	35-165	1	20	ug/L	
Bromodichloromethane	<1.000	50.00	51.77	104	51.32	103	65-135	1	20	ug/L	
cis-1,3-Dichloropropene	<1.000	50.00	53.17	106	53.17	106	25-175	0	20	ug/L	
Toluene	<1.000	50.00	49.34	99	49.22	98	70-130	0	20	ug/L	
trans-1,3-dichloropropene	<1.000	50.00	54.98	110	54.53	109	50-150	1	20	ug/L	
1,1,2-Trichloroethane	<1.000	50.00	51.15	102	50.63	101	70-130	1	20	ug/L	
Tetrachloroethylene	<1.000	50.00	53.97	108	53.96	108	70-130	0	20	ug/L	
Dibromochloromethane	<1.000	50.00	52.68	105	52.11	104	70-135	1	20	ug/L	
Chlorobenzene	<1.000	50.00	50.08	100	49.81	100	65-135	1	20	ug/L	
Ethylbenzene	<1.000	50.00	50.12	100	50.01	100	60-140	0	20	ug/L	
Bromoform	<1.000	50.00	58.74	117	58.29	117	70-130	1	20	ug/L	
1,1,2,2-Tetrachloroethane	<1.000	50.00	45.32	91	45.13	90	60-140	0	20	ug/L	
1,3-Dichlorobenzene	<1.000	50.00	52.07	104	52.43	105	70-130	1	20	ug/L	
1,4-Dichlorobenzene	<1.000	50.00	51.11	102	51.38	103	65-135	1	20	ug/L	
1,2-Dichlorobenzene	<1.000	50.00	52.91	106	53.34	107	65-135	1	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Dibromofluoromethane	103		105		105		94-108	%
4-Bromofluorobenzene	93		89		89		77-120	%
Toluene-D8	102		104		104		95-104	%

QC Summary

Project Name Kop-Flex
PSS Project No.: 24091225

Analytical Method: EPA 624 .1

Seq Number: 216400

MB Sample ID: 102094-1-BLK

Matrix: Water

LCS Sample ID: 102094-1-BKS

Prep Method: E624PREP

Date Prep: 09/25/24

LCSD Sample ID: 102094-1-bsd

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<26.00	30.00	26.83	89	27.03	90	54-145	1	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Dibromofluoromethane	106		106		105		94-108	%
4-Bromofluorobenzene	77		75	*	75	*	77-120	%
Toluene-D8	99		100		100		95-104	%

Analytical Method: EPA 624 .1

Seq Number: 216400

Parent Sample ID: 24091225-001

Matrix: Waste Water

MS Sample ID: 24091225-001 S

Prep Method: E624PREP

Date Prep: 09/25/24

MSD Sample ID: 24091225-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<1.000	30.00	23.34	78	23.90	80	59-145	2	18	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	106		107		94-108	%
4-Bromofluorobenzene	77		75	*	77-120	%
Toluene-D8	100		99		95-104	%

Project Name Kop-Flex

PSS Project No.: 24091225

Analytical Method: EPA 200.8

CCV Sample Id: CCV 1 Seq Number: 216106

Analyzed Date: 09/13/24 14:18

Parameter	CCV %Rec	Limits	Flag
Copper	102	85-115	
Lead	101	85-115	
Nickel	99	85-115	
Zinc	102	85-115	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 216106

Analyzed Date: 09/13/24 12:29

Parameter	ICV %Rec	Limits	Flag
Copper	102	90-110	
Lead	102	90-110	
Nickel	98	90-110	
Zinc	101	90-110	

Analytical Method: EPA 624 .1

CCV Sample Id: CCV, VOC-1 Seq Number: 216066

Analyzed Date: 09/12/24 15:50

Parameter	CCV %Rec	Limits	Flag
Acrolein	102	60-140	
Acrylonitrile	90	60-140	
Dichlorodifluoromethane	64	59-110	
Chloromethane	61	1-205	
Vinyl Chloride	87	43-133	
Bromomethane	91	15-185	
Chloroethane	89	40-160	
Trichlorofluoromethane	96	70-130	
2-Chloroethyl Vinyl Ether	63	1-225	
1,1-Dichloroethene	90	50-150	
Methylene Chloride	97	76-125	
trans-1,2-dichloroethene	98	70-124	
1,1-Dichloroethane	89	70-130	
Chloroform	98	70-135	
1,1,1-Trichloroethane	96	70-130	
Carbon Tetrachloride	102	70-130	
Benzene	93	65-135	
1,2-Dichloroethane	96	70-130	
Trichloroethene	98	69-126	
1,2-Dichloropropane	92	35-165	
Bromodichloromethane	102	65-135	
cis-1,3-Dichloropropene	106	70-135	
Toluene	96	48-135	
trans-1,3-dichloropropene	109	39-176	
1,1,2-Trichloroethane	101	70-130	
Tetrachloroethylene	105	69-126	
Dibromochloromethane	106	51-128	
Chlorobenzene	99	65-135	
Ethylbenzene	99	71-124	
Bromoform	119	70-130	
1,1,2,2-Tetrachloroethane	89	60-140	
1,3-Dichlorobenzene	103	70-130	
1,4-Dichlorobenzene	101	65-135	
1,2-Dichlorobenzene	104	65-135	

Surrogate	Limits	Flag
Dibromofluoromethane	105 94-108	
4-Bromofluorobenzene	89 77-120	
Toluene-D8	102 95-104	

Analytical Method: EPA 624 .1

CCV Sample Id: CCV, 1,4-DIOX Seq Number: 216400

Analyzed Date: 09/25/24 20:44

Parameter	CCV %Rec	Limits	Flag
1,4-Dioxane	94	54-145	
Surrogate		Limits	Flag
Dibromofluoromethane	107	94-108	
4-Bromofluorobenzene	74	77-120	X
Toluene-D8	99	95-104	

Project Name Kop-Flex
PSS Project No.: 24091225

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 214976
Analyzed Date: 08/05/24 14:21

Parameter	ICV %Rec	Limits	Flag
Acrolein	105	60-140	
Acrylonitrile	92	60-140	
Dichlorodifluoromethane	99	51-128	
Chloromethane	99	1-205	
Vinyl Chloride	114	5-195	
Bromomethane	117	15-185	
Chloroethane	95	40-160	
Trichlorofluoromethane	106	50-150	
2-Chloroethyl Vinyl Ether	91	1-225	
1,1-Dichloroethene	103	50-150	
Methylene Chloride	95	60-140	
trans-1,2-dichloroethene	106	70-130	
1,1-Dichloroethane	103	70-130	
Chloroform	103	70-135	
1,1,1-Trichloroethane	106	70-130	
Carbon Tetrachloride	108	70-130	
Benzene	103	65-135	
1,2-Dichloroethane	100	70-130	
Trichloroethene	105	65-135	
1,2-Dichloropropane	105	35-165	
Bromodichloromethane	108	65-135	
cis-1,3-Dichloropropene	114	25-175	
Toluene	104	70-130	
trans-1,3-dichloropropene	115	50-150	
1,1,2-Trichloroethane	102	70-130	
Tetrachloroethylene	107	70-130	
Dibromochloromethane	110	70-135	
Chlorobenzene	105	65-135	
Ethylbenzene	111	60-140	
Bromoform	110	70-130	
1,1,2,2-Tetrachloroethane	101	60-140	
1,3-Dichlorobenzene	108	70-130	
1,4-Dichlorobenzene	106	65-135	
1,2-Dichlorobenzene	108	65-135	

Surrogate	Limits	Flag
Dibromofluoromethane	99 94-108	
4-Bromofluorobenzene	100 77-120	
Toluene-D8	100 95-104	

Analytical Method: SW-846 8260 D-SIM

CCV Sample Id: CCV-01 Seq Number: 213088
Analyzed Date: 05/25/24 15:01

Parameter	CCV %Rec	Limits	Flag
1,4-Dioxane (P-Dioxane)	107	80-120	
Surrogate		Limits	Flag
Toluene-D8	104	80-120	

Analytical Method: SW-846 8260 D-SIM

Parent Sample Id: ICV-01 Seq Number: 213088
Analyzed Date: 05/25/24 14:39

Parameter	ICV %Rec	Limits	Flag
1,4-Dioxane (P-Dioxane)	104	70-130	
Surrogate		Limits	Flag

Project Name Kop-Flex
PSS Project No.: 24091225

Analytical Method: SW-846 8260 D-SIM

Parent Sample Id: ICV-01 Seq Number: 213088
Analyzed Date: 05/25/24 14:39

Surrogate		Limits	Flag
Toluene-D8	102	80-120	

**PHASE
SEPARATION
SCIENCE**

CHAIN OF CUSTODY FORM

All fields must be completed accurately. Shaded sections for lab use only.

www.phaseonline.com ~ info@phaseonline.com

6630 Baltimore National Pike • Suite 103-A • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047

PSS CLIENT: WSP USA		OFFICE LOCATION: Herndon, VA		PSS Work Order #: 240912265 <i>LS 9/12/24</i>		PAGE 1 OF 1							
BILL TO (if different):		PHONE #: 703-709-6500		Matrix Codes: SW=Surface Water DW=Drinking Water GW=Ground Water WW=Waste Water O=Oil S=Soil SOL=Solid A=Air WI=Wipe									
CONTACT: Eric Johnson		EMAIL: eric.johnson@wsp.com		# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes		Preservative Codes					
PROJECT NAME: Kop-Flex		PROJECT #: 31405608.010/02				Analysis/Method Required ③		1-6		1 - HCL			
SITE LOCATION: Harmans, MD		P.O. #:						1-6		2 - H ₂ SO ₄		3 - HNO ₃	
SAMPLER(S): Greg Makris		DW CERT #:						3,6		4 - NaOH		5 - E624KIT	
						TSS SM 2540106		6 - ICE					
								7 - Sodium Thiosulfate					
								8 - Ascorbic Acid					
								9 - TerraCore Kit					

PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	1-6	1-6	3,6						
1	Effluent VSP-4	9/12/24	1445	WW	8	G	X	X	X	X					
2	TB-091224			TB	4	-	X	X							

Relinquished By: (1) <i>[Signature]</i>	Date: 9/12/24	Time: 1530	Received By: <i>[Signature]</i>	Requested TAT (One TAT per COC) <input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input checked="" type="checkbox"/> Other	Ice Present: yes
Relinquished By: (2)	Date	Time	Received By:	STATE RESULTS REPORTED TO: <input type="checkbox"/> MD <input type="checkbox"/> DE <input type="checkbox"/> PA <input type="checkbox"/> VA <input type="checkbox"/> WV <input type="checkbox"/> OTHER	Custody Seal: yes
Relinquished By: (3)	Date	Time	Received By:	COMPLIANCE? <input type="checkbox"/> DW <input type="checkbox"/> WW	# Coolers: 1 Temp: 7.2-9.5°C
Relinquished By: (4)	Date	Time	Received By:	EDD FORMAT TYPE	Shipping Carrier: C/air

Special Instructions: **Temp Blank: 7.7°C**
Standard 10-day TAT

Sample Receipt Checklist

Project Name: Kop-Flex
 PSS Project No.: 24091225

Client Name WSP USA - Herndon
Disposal Date 10/17/2024

Received By Tyler Enwright
Date Received 09/12/2024 03:30 PM
Delivered By Client
Tracking # Not Applicable
Logged In By Tyler Enwright

Shipping Container(s)

of Coolers 1

Custody Seal(s) Intact? N/A
 Seal(s) Signed / Dated? N/A

Ice Present
 Temp (°C) 9.3
 Temp Blank Present Yes

Documentation

COC agrees with sample labels? Yes
 Chain of Custody Yes

Sampler Name Gregory Makris
 MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes
 Intact? Yes
 Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
 Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? Yes

Total # of Samples Received 2
 Total # of Containers Received 12

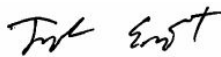
Preservation

Total Metals (pH<2) Yes
 Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
 Orthophosphorus, filtered within 15 minutes of collection N/A
 Cyanides (pH>12) N/A
 Sulfide (pH>9) N/A
 TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
 TOX, TKN, NH3, Total Phos (pH<2) N/A
 VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) Yes
 Do VOA vials have zero headspace? Yes
 624 VOC (Rcvd at least one unpreserved VOA vial) Yes
 524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, the sample ID, preservative added, documentation of any client notification, and subsequent client instructions are noted below. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C, and <=4°C for EPA 524. Samples that are received by the lab on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that thermal preservation has begun.

Samples Inspected/Checklist Completed By:



Tyler Enwright

Date: 09/12/2024

PM Review and Approval:



Amber Confer

Date: 09/13/2024

Project Name: Kop-Flex
PSS Project No.: 24101806

November 1, 2024

Eric Johnson
WSP USA - Herndon
13530 Dulles Technology Dr, Ste 300
Herndon, VA 20171



Reference: PSS Project No: **24101806**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 31405608.010

Dear Eric Johnson:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24101806**.


All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on November 22, 2024, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,


Dan Prucnal

Laboratory Manager



Sample Summary

Project Name: Kop-Flex
 PSS Project No.: 24101806

The following samples were received under chain of custody by Phase Separation Science (PSS) on 10/18/2024 at 11:55 am. Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24101806-001	Influent VSP-1	GROUND WATER	10/18/24 10:30
24101806-002	Effluent VSP-4	WASTE WATER	10/18/24 10:40
24101806-003	Trip Blank-101824	WATER	10/18/24 00:00

Report Information

Project Name: Kop-Flex
PSS Project No.: 24101806

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit (or MDL if shown).
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24101806

Sample ID: Influent VSP-1 **Date/Time Sampled: 10/18/2024 10:30** **PSS Sample ID: 24101806-001**
Matrix: GROUND WATER **Date/Time Received: 10/18/2024 11:55**

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	96.9	ug/L	10.0		10	10	11/01/24	11/01/24 13:20	1045
<i>Surrogate(s)</i>	<i>Recovery</i>		<i>Limits</i>						
<i>Dibromofluoromethane</i>	108	%	94-108		10		11/01/24	11/01/24 13:20	1045
<i>4-Bromofluorobenzene</i>	78	%	77-120		10		11/01/24	11/01/24 13:20	1045
<i>Toluene-D8</i>	100	%	95-104		10		11/01/24	11/01/24 13:20	1045

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 217115 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	5.0		1	1.5	10/24/24	10/24/24 18:02	1045
Benzene	ND	ug/L	1.0		1	0.19	10/24/24	10/24/24 18:02	1045
Bromochloromethane	ND	ug/L	1.0		1	0.28	10/24/24	10/24/24 18:02	1045
Bromodichloromethane	ND	ug/L	1.0		1	0.18	10/24/24	10/24/24 18:02	1045
Bromoform	ND	ug/L	1.0		1	0.17	10/24/24	10/24/24 18:02	1045
Bromomethane	ND	ug/L	1.0		1	0.6	10/24/24	10/24/24 18:02	1045
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	10/24/24	10/24/24 18:02	1045
Carbon Disulfide	ND	ug/L	1.0		1	0.35	10/24/24	10/24/24 18:02	1045
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	10/24/24	10/24/24 18:02	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	10/24/24	10/24/24 18:02	1045
Chloroethane	12	ug/L	1.0		1	0.23	10/24/24	10/24/24 18:02	1045
Chloroform	ND	ug/L	1.0		1	0.21	10/24/24	10/24/24 18:02	1045
Chloromethane	ND	ug/L	1.0		1	0.33	10/24/24	10/24/24 18:02	1045
Cyclohexane	ND	ug/L	1.0		1	0.32	10/24/24	10/24/24 18:02	1045
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		1	0.19	10/24/24	10/24/24 18:02	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	10/24/24	10/24/24 18:02	1045
1,2-Dibromoethane	ND	ug/L	1.0		1	0.22	10/24/24	10/24/24 18:02	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	10/24/24	10/24/24 18:02	1045
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	10/24/24	10/24/24 18:02	1045
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	10/24/24	10/24/24 18:02	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	10/24/24	10/24/24 18:02	1045
1,1-Dichloroethane	85	ug/L	1.0		1	0.19	10/24/24	10/24/24 18:02	1045
1,2-Dichloroethane	1.9	ug/L	1.0		1	0.18	10/24/24	10/24/24 18:02	1045
cis-1,2-Dichloroethene	3.2	ug/L	1.0		1	0.19	10/24/24	10/24/24 18:02	1045
1,1-Dichloroethene	300	ug/L	10		10	1.8	10/30/24	10/30/24 18:22	1045

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24101806

Sample ID: Influent VSP-1 **Date/Time Sampled: 10/18/2024 10:30** **PSS Sample ID: 24101806-001**
Matrix: GROUND WATER **Date/Time Received: 10/18/2024 11:55**

TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 217115 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	10/24/24	10/24/24 18:02	1045
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	10/24/24	10/24/24 18:02	1045
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	10/24/24	10/24/24 18:02	1045
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	10/24/24	10/24/24 18:02	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	10/24/24	10/24/24 18:02	1045
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	10/24/24	10/24/24 18:02	1045
Isopropylbenzene	ND	ug/L	1.0		1	0.27	10/24/24	10/24/24 18:02	1045
Methyl Acetate	ND	ug/L	1.0		1	0.5	10/24/24	10/24/24 18:02	1045
Methylcyclohexane	ND	ug/L	1.0		1	0.14	10/24/24	10/24/24 18:02	1045
Methylene chloride	ND	ug/L	1.0		1	0.34	10/24/24	10/24/24 18:02	1045
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	10/24/24	10/24/24 18:02	1045
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	0.17	10/24/24	10/24/24 18:02	1045
Naphthalene	ND	ug/L	1.0		1	0.6	10/24/24	10/24/24 18:02	1045
Styrene	ND	ug/L	1.0		1	0.17	10/24/24	10/24/24 18:02	1045
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	10/24/24	10/24/24 18:02	1045
Tetrachloroethene	ND	ug/L	1.0		1	0.23	10/24/24	10/24/24 18:02	1045
Toluene	ND	ug/L	1.0		1	0.52	10/24/24	10/24/24 18:02	1045
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	0.3	10/24/24	10/24/24 18:02	1045
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	0.26	10/24/24	10/24/24 18:02	1045
1,1,1-Trichloroethane	18	ug/L	1.0		1	0.16	10/24/24	10/24/24 18:02	1045
Trichloroethene	1.3	ug/L	1.0		1	0.19	10/24/24	10/24/24 18:02	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	10/24/24	10/24/24 18:02	1045
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	10/24/24	10/24/24 18:02	1045
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	0.17	10/24/24	10/24/24 18:02	1045
Vinyl chloride	ND	ug/L	1.0		1	0.34	10/24/24	10/24/24 18:02	1045
m&p-Xylene	ND	ug/L	2.0		1	0.4	10/24/24	10/24/24 18:02	1045
o-Xylene	ND	ug/L	1.0		1	0.18	10/24/24	10/24/24 18:02	1045

Surrogate(s)	Recovery	Limits				
4-Bromofluorobenzene	102 %	85-122	1	10/24/24	10/24/24 18:02	1045
Dibromofluoromethane	101 %	96-107	1	10/24/24	10/24/24 18:02	1045
Toluene-D8	99 %	95-105	1	10/24/24	10/24/24 18:02	1045
4-Bromofluorobenzene	109 %	85-122	10	10/30/24	10/30/24 18:22	1045
Dibromofluoromethane	100 %	96-107	10	10/30/24	10/30/24 18:22	1045
Toluene-D8	100 %	95-105	10	10/30/24	10/30/24 18:22	1045

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24101806

Sample ID: Effluent VSP-4 **Date/Time Sampled: 10/18/2024 10:40** **PSS Sample ID: 24101806-002**
Matrix: WASTE WATER **Date/Time Received: 10/18/2024 11:55**

Total Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Copper	16.0	ug/L	1.00		1	0.98	10/21/24	10/21/24 21:04	1059
Lead	0.69	ug/L	1.0	J	1	0.66	10/21/24	10/21/24 21:04	1059
Nickel	18.2	ug/L	1.00		1	0.95	10/21/24	10/21/24 21:04	1059
Zinc	35.8	ug/L	20.0		1	7.1	10/21/24	10/21/24 21:04	1059

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	7.1	ug/L	1.0		1	1	10/31/24	10/31/24 19:51	1045
<i>Surrogate(s)</i>	<i>Recovery</i>		<i>Limits</i>						
<i>Dibromofluoromethane</i>	107	%	94-108		1		10/31/24	10/31/24 19:51	1045
<i>4-Bromofluorobenzene</i>	79	%	77-120		1		10/31/24	10/31/24 19:51	1045
<i>Toluene-D8</i>	100	%	95-104		1		10/31/24	10/31/24 19:51	1045

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=7

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	10/18/24	10/18/24 15:38	1045
Acrylonitrile	ND	ug/L	5.0		1	1.5	10/18/24	10/18/24 15:38	1045
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	10/18/24	10/18/24 15:38	1045
Chloromethane	ND	ug/L	1.0		1	0.33	10/18/24	10/18/24 15:38	1045
Vinyl Chloride	ND	ug/L	1.0		1	0.34	10/18/24	10/18/24 15:38	1045
Bromomethane	ND	ug/L	1.0		1	0.6	10/18/24	10/18/24 15:38	1045
Chloroethane	ND	ug/L	1.0		1	0.23	10/18/24	10/18/24 15:38	1045
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	10/18/24	10/18/24 15:38	1045
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	10/18/24	10/18/24 15:38	1045
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	10/18/24	10/18/24 15:38	1045
Methylene Chloride	ND	ug/L	1.0		1	0.34	10/18/24	10/18/24 15:38	1045
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	10/18/24	10/18/24 15:38	1045
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	10/18/24	10/18/24 15:38	1045
Chloroform	ND	ug/L	1.0		1	0.21	10/18/24	10/18/24 15:38	1045
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	10/18/24	10/18/24 15:38	1045
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	10/18/24	10/18/24 15:38	1045
Benzene	ND	ug/L	1.0		1	0.19	10/18/24	10/18/24 15:38	1045

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24101806

Sample ID: Effluent VSP-4 **Date/Time Sampled: 10/18/2024 10:40** **PSS Sample ID: 24101806-002**
Matrix: WASTE WATER **Date/Time Received: 10/18/2024 11:55**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=7

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	10/18/24	10/18/24 15:38	1045
Trichloroethene	ND	ug/L	1.0		1	0.19	10/18/24	10/18/24 15:38	1045
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	10/18/24	10/18/24 15:38	1045
Bromodichloromethane	ND	ug/L	1.0		1	0.18	10/18/24	10/18/24 15:38	1045
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	10/18/24	10/18/24 15:38	1045
Toluene	ND	ug/L	1.0		1	0.52	10/18/24	10/18/24 15:38	1045
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	10/18/24	10/18/24 15:38	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	10/18/24	10/18/24 15:38	1045
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	10/18/24	10/18/24 15:38	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	10/18/24	10/18/24 15:38	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	10/18/24	10/18/24 15:38	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	10/18/24	10/18/24 15:38	1045
Bromoform	ND	ug/L	1.0		1	0.17	10/18/24	10/18/24 15:38	1045
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	10/18/24	10/18/24 15:38	1045
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	10/18/24	10/18/24 15:38	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	10/18/24	10/18/24 15:38	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	10/18/24	10/18/24 15:38	1045
Surrogate(s) Recovery Limits									
<i>Dibromofluoromethane</i>	105	%	94-108		1		10/18/24	10/18/24 15:38	1045
<i>4-Bromofluorobenzene</i>	96	%	77-120		1		10/18/24	10/18/24 15:38	1045
<i>Toluene-D8</i>	101	%	95-104		1		10/18/24	10/18/24 15:38	1045

Total Suspended Solids Analytical Method: SM 2540D -2015

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Total Suspended Solids	ND	mg/L	1.0		1	0.4	10/22/24	10/22/24 18:30	1074

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24101806

Sample ID: Effluent VSP-4 **Date/Time Sampled: 10/18/2024 10:40** **PSS Sample ID: 24101806-002**
Matrix: WASTE WATER **Date/Time Received: 10/18/2024 11:55**

Biochemical Oxygen Demand Analytical Method: SM 5210B -2016

Qualifier(s): See NELAP accreditation section on Case Narrative.

	Result	Units	RL	Flag	MDL	Prepared	Analyzed	Analyst
Biochemical Oxygen Demand, 5 day	ND	mg/L		2		1 10/18/24	10/18/24 17:51	4009

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24101806

Sample ID: Trip Blank-101824 **Date/Time Sampled: 10/18/2024 00:00** **PSS Sample ID: 24101806-003**
Matrix: WATER **Date/Time Received: 10/18/2024 11:55**

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	10/31/24	10/31/24 20:12	1045
Surrogate(s)	Recovery		Limits						
Dibromofluoromethane	107	%	94-108		1		10/31/24	10/31/24 20:12	1045
4-Bromofluorobenzene	76	%	77-120	*	1		10/31/24	10/31/24 20:12	1045
Toluene-D8	98	%	95-104		1		10/31/24	10/31/24 20:12	1045

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	10/29/24	10/29/24 21:43	1045
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	10/29/24	10/29/24 21:43	1045
Acrylonitrile	ND	ug/L	5.0		1	1.5	10/29/24	10/29/24 21:43	1045
Chloromethane	ND	ug/L	1.0		1	0.33	10/29/24	10/29/24 21:43	1045
Vinyl Chloride	ND	ug/L	1.0		1	0.34	10/29/24	10/29/24 21:43	1045
Bromomethane	ND	ug/L	1.0		1	0.6	10/29/24	10/29/24 21:43	1045
Chloroethane	ND	ug/L	1.0		1	0.23	10/29/24	10/29/24 21:43	1045
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	10/29/24	10/29/24 21:43	1045
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	10/29/24	10/29/24 21:43	1045
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	10/29/24	10/29/24 21:43	1045
Methylene Chloride	ND	ug/L	1.0		1	0.34	10/29/24	10/29/24 21:43	1045
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	10/29/24	10/29/24 21:43	1045
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	10/29/24	10/29/24 21:43	1045
Chloroform	ND	ug/L	1.0		1	0.21	10/29/24	10/29/24 21:43	1045
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	10/29/24	10/29/24 21:43	1045
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	10/29/24	10/29/24 21:43	1045
Benzene	ND	ug/L	1.0		1	0.19	10/29/24	10/29/24 21:43	1045
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	10/29/24	10/29/24 21:43	1045
Trichloroethene	ND	ug/L	1.0		1	0.19	10/29/24	10/29/24 21:43	1045
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	10/29/24	10/29/24 21:43	1045
Bromodichloromethane	ND	ug/L	1.0		1	0.18	10/29/24	10/29/24 21:43	1045
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	10/29/24	10/29/24 21:43	1045
Toluene	ND	ug/L	1.0		1	0.52	10/29/24	10/29/24 21:43	1045
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	10/29/24	10/29/24 21:43	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	10/29/24	10/29/24 21:43	1045

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24101806

Sample ID: Trip Blank-101824 **Date/Time Sampled: 10/18/2024 00:00** **PSS Sample ID: 24101806-003**
Matrix: WATER **Date/Time Received: 10/18/2024 11:55**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	10/29/24	10/29/24 21:43	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	10/29/24	10/29/24 21:43	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	10/29/24	10/29/24 21:43	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	10/29/24	10/29/24 21:43	1045
Bromoform	ND	ug/L	1.0		1	0.17	10/29/24	10/29/24 21:43	1045
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	10/29/24	10/29/24 21:43	1045
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	10/29/24	10/29/24 21:43	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	10/29/24	10/29/24 21:43	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	10/29/24	10/29/24 21:43	1045
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	104 %		94-108		1		10/29/24	10/29/24 21:43	1045
<i>4-Bromofluorobenzene</i>	104 %		77-120		1		10/29/24	10/29/24 21:43	1045
<i>Toluene-D8</i>	98 %		95-104		1		10/29/24	10/29/24 21:43	1045

Case Narrative

Project Name: Kop-Flex

PSS Project No.: 24101806

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

24101806: Analyses associated with analyst code 4009 were performed by Martel Laboratories, Inc., 1025 Cromwell Bridge Road, Towson, MD 21204

Analytical:

TCL Volatile Organic Compounds

Batch: 217115

Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

Method exceedance: Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) exceedances identified; see QC summary.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Analytical Method(s): SM 5210B -2016

EPA 624 .1: 1,4-Dioxane

Lab Chronology

Project Name: Kop-Flex
PSS Project No.: 24101806

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 200.8	24101806-002	259	Initial	W	102381	217024	10/21/2024 09:40	10/21/2024 21:04
	102381-1-BKS		BKS	W	102381	217024	10/21/2024 09:40	10/21/2024 20:38
	102381-1-BLK		BLK	W	102381	217024	10/21/2024 09:40	10/21/2024 20:33
	24101801-002 S	172	MS	W	102381	217024	10/21/2024 09:40	10/21/2024 20:49
	24101801-002 SD	172	MSD	W	102381	217024	10/21/2024 09:40	10/21/2024 20:54
EPA 624 .1	24101806-002	249	Initial	W	102410	217023	10/18/2024 10:45	10/18/2024 15:38
	102410-1-BKS		BKS	W	102410	217023	10/18/2024 10:45	10/18/2024 11:48
	102410-1-BLK		BLK	W	102410	217023	10/18/2024 10:45	10/18/2024 14:14
	102410-1-BSD		BSD	W	102410	217023	10/18/2024 10:45	10/18/2024 12:09
	24101621-001 S	64	MS	W	102410	217023	10/18/2024 10:45	10/18/2024 12:30
	24101621-001 SD	64	MSD	W	102410	217023	10/18/2024 10:45	10/18/2024 12:51
	24101806-003	255	Initial	W	102521	217250	10/29/2024 10:42	10/29/2024 21:43
	102521-1-BKS		BKS	W	102521	217250	10/29/2024 10:42	10/29/2024 11:51
	102521-1-BLK		BLK	W	102521	217250	10/29/2024 10:42	10/29/2024 13:35
	102521-1-BSD		BSD	W	102521	217250	10/29/2024 10:42	10/29/2024 12:12
	24102318-001 S	544	MS	W	102521	217250	10/29/2024 10:42	10/29/2024 22:46
	24102318-001 SD	544	MSD	W	102521	217250	10/29/2024 10:42	10/29/2024 23:07
EPA 624 .1	24101806-002	252	Initial	W	102561	217335	10/31/2024 17:02	10/31/2024 19:51
	24101806-003	257	Initial	W	102561	217335	10/31/2024 17:02	10/31/2024 20:12
	102561-1-BKS		BKS	W	102561	217335	10/31/2024 17:02	10/31/2024 17:46
	102561-1-BLK		BLK	W	102561	217335	10/31/2024 17:02	10/31/2024 19:09
	24101806-002 S	254	MS	W	102561	217335	10/31/2024 17:02	10/31/2024 18:07
	24101806-002 SD	254	MSD	W	102561	217335	10/31/2024 17:02	10/31/2024 18:27
	24101806-001	241	Initial	W	102564	217336	11/01/2024 13:51	11/01/2024 13:20
	102564-1-BKS		BKS	W	102564	217336	11/01/2024 13:51	11/01/2024 11:56
	102564-1-BLK		BLK	W	102564	217336	11/01/2024 13:51	11/01/2024 12:59
	102564-1-BSD		BSD	W	102564	217336	11/01/2024 13:51	11/01/2024 12:17
SM 2540D -2015	24101806-002	248	Initial	W	217044	217044	10/22/2024 18:30	10/22/2024 18:30
	217044-1-BKS		BKS	W	217044	217044	10/22/2024 18:30	10/22/2024 18:30
	217044-1-BLK		BLK	W	217044	217044	10/22/2024 18:30	10/22/2024 18:30
	24101602-001 D	938	MD	W	217044	217044	10/22/2024 18:30	10/22/2024 18:30
SM 5210B -2016	24101806-002	247	Initial	W	217317	217317	10/18/2024 17:51	10/18/2024 17:51
SW-846 8260 D	24101806-001	245	Initial	W	102451	217115	10/24/2024 07:52	10/24/2024 18:02
	102451-1-BKS		BKS	W	102451	217115	10/24/2024 07:52	10/24/2024 08:13
	102451-1-BLK		BLK	W	102451	217115	10/24/2024 07:52	10/24/2024 10:39
	102451-1-BSD		BSD	W	102451	217115	10/24/2024 07:52	10/24/2024 08:34
	24101806-001 S	241	MS	W	102451	217115	10/24/2024 07:52	10/24/2024 18:23
	24101806-001 SD	241	MSD	W	102451	217115	10/24/2024 07:52	10/24/2024 18:44
	102543-1-BKS		BKS	W	102543	217296	10/30/2024 11:18	10/30/2024 11:39
	102543-1-BLK		BLK	W	102543	217296	10/30/2024 11:18	10/30/2024 14:59
	102543-1-BSD		BSD	W	102543	217296	10/30/2024 11:18	10/30/2024 12:54
	24102501-001 S	744	MS	W	102543	217296	10/30/2024 11:18	10/30/2024 20:07
	24102501-001 SD	744	MSD	W	102543	217296	10/30/2024 11:18	10/30/2024 20:27

Lab Chronology

Project Name: Kop-Flex
PSS Project No.: 24101806

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SW-846 8260 D	24101806-001	245	Reanalysis	W	102543	217296	10/30/2024 11:18	10/30/2024 18:22

QC Summary

Project Name Kop-Flex
PSS Project No.: 24101806

Analytical Method: SM 2540D -2015

Seq Number: 217044 Matrix: Water
MB Sample ID: 217044-1-BLK LCS Sample ID: 217044-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Total Suspended Solids	<0.4000	104.8	103	98	88-109	mg/L	

Analytical Method: EPA 200.8

Seq Number: 217024 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 102381-1-BLK LCS Sample ID: 102381-1-BKS Date Prep: 10/21/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Copper	<0.9800	50.00	47.95	96	85-115	ug/L	
Lead	<0.6600	50.00	49.03	98	85-115	ug/L	
Nickel	<0.9500	50.00	46.41	93	85-115	ug/L	
Zinc	<7.100	100	90.72	91	85-115	ug/L	

Project Name Kop-Flex

PSS Project No.: 24101806

Analytical Method: EPA 624 .1

Seq Number: 217023

MB Sample ID: 102410-1-BLK

Matrix: Water

LCS Sample ID: 102410-1-BKS

Prep Method: E624PREP

Date Prep: 10/18/24

LCSD Sample ID: 102410-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acrolein	<1.700	50.00	57.06	114	56.81	114	60-140	0	20	ug/L	
Acrylonitrile	<1.500	50.00	47.22	94	46.89	94	60-140	1	20	ug/L	
Dichlorodifluoromethane	<1.000	50.00	47.31	95	45.62	91	51-128	4	20	ug/L	
Chloromethane	<1.000	50.00	33.99	68	32.44	65	1-205	5	20	ug/L	
Vinyl Chloride	<1.000	50.00	44.31	89	42.74	85	5-195	4	20	ug/L	
Bromomethane	<1.000	50.00	48.63	97	47.21	94	15-185	3	20	ug/L	
Chloroethane	<1.000	50.00	50.72	101	49.16	98	40-160	3	20	ug/L	
Trichlorofluoromethane	<1.000	50.00	52.51	105	50.34	101	50-150	4	20	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	18.14	36	17.44	35	1-225	4	20	ug/L	
1,1-Dichloroethene	<1.000	50.00	55.41	111	52.77	106	50-150	5	20	ug/L	
Methylene Chloride	<1.000	50.00	52.88	106	52.21	104	60-140	1	20	ug/L	
trans-1,2-dichloroethene	<1.000	50.00	55.89	112	53.97	108	70-130	3	20	ug/L	
1,1-Dichloroethane	<1.000	50.00	46.23	92	44.94	90	70-130	3	20	ug/L	
Chloroform	<1.000	50.00	50.97	102	49.63	99	70-135	3	20	ug/L	
1,1,1-Trichloroethane	<1.000	50.00	51.53	103	49.85	100	70-130	3	20	ug/L	
Carbon Tetrachloride	<1.000	50.00	55.72	111	53.42	107	70-130	4	20	ug/L	
Benzene	<1.000	50.00	48.86	98	47.28	95	65-135	3	20	ug/L	
1,2-Dichloroethane	<1.000	50.00	48.40	97	47.45	95	70-130	2	20	ug/L	
Trichloroethene	<1.000	50.00	53.43	107	51.44	103	65-135	4	20	ug/L	
1,2-Dichloropropane	<1.000	50.00	46.40	93	45.22	90	35-165	3	20	ug/L	
Bromodichloromethane	<1.000	50.00	52.49	105	51.64	103	65-135	2	20	ug/L	
cis-1,3-Dichloropropene	<1.000	50.00	54.52	109	53.45	107	25-175	2	20	ug/L	
Toluene	<1.000	50.00	50.98	102	49.77	100	70-130	2	20	ug/L	
trans-1,3-dichloropropene	<1.000	50.00	55.29	111	54.38	109	50-150	2	20	ug/L	
1,1,2-Trichloroethane	<1.000	50.00	50.85	102	50.40	101	70-130	1	20	ug/L	
Tetrachloroethylene	<1.000	50.00	58.24	116	56.54	113	70-130	3	20	ug/L	
Dibromochloromethane	<1.000	50.00	55.32	111	53.97	108	70-135	2	20	ug/L	
Chlorobenzene	<1.000	50.00	51.67	103	50.11	100	65-135	3	20	ug/L	
Ethylbenzene	<1.000	50.00	50.85	102	49.46	99	60-140	3	20	ug/L	
Bromoform	<1.000	50.00	59.43	119	58.73	117	70-130	1	20	ug/L	
1,1,2,2-Tetrachloroethane	<1.000	50.00	42.63	85	42.71	85	60-140	0	20	ug/L	
1,3-Dichlorobenzene	<1.000	50.00	52.06	104	51.64	103	70-130	1	20	ug/L	
1,4-Dichlorobenzene	<1.000	50.00	50.35	101	49.94	100	65-135	1	20	ug/L	
1,2-Dichlorobenzene	<1.000	50.00	52.02	104	51.89	104	65-135	0	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Dibromofluoromethane	105		105		106		94-108	%
4-Bromofluorobenzene	94		87		88		77-120	%
Toluene-D8	100		102		102		95-104	%

Project Name Kop-Flex

PSS Project No.: 24101806

Analytical Method: EPA 624 .1

Seq Number: 217250

MB Sample ID: 102521-1-BLK

Matrix: Water

LCS Sample ID: 102521-1-BKS

Prep Method: E624PREP

Date Prep: 10/29/24

LCSD Sample ID: 102521-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acrolein	<1.700	50.00	47.30	95	47.52	95	60-140	0	20	ug/L	
Acrylonitrile	<1.500	50.00	50.99	102	49.36	99	60-140	3	20	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	36.91	74	33.92	68	51-128	8	20	ug/L	
Chloromethane	<0.3300	50.00	46.07	92	38.91	78	1-205	17	20	ug/L	
Vinyl Chloride	<0.3400	50.00	45.82	92	40.93	82	5-195	11	20	ug/L	
Bromomethane	<0.6000	50.00	49.72	99	47.11	94	15-185	5	20	ug/L	
Chloroethane	<0.2300	50.00	46.72	93	44.08	88	40-160	6	20	ug/L	
Trichlorofluoromethane	<0.1700	50.00	45.74	91	44.51	89	50-150	3	20	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	41.82	84	43.19	86	1-225	3	20	ug/L	
1,1-Dichloroethene	<0.1800	50.00	46.85	94	46.05	92	50-150	2	20	ug/L	
Methylene Chloride	<0.3400	50.00	50.70	101	46.98	94	60-140	8	20	ug/L	
trans-1,2-dichloroethene	<0.2900	50.00	53.28	107	49.13	98	70-130	8	20	ug/L	
1,1-Dichloroethane	<0.1900	50.00	51.65	103	48.28	97	70-130	7	20	ug/L	
Chloroform	<0.2100	50.00	52.41	105	48.90	98	70-135	7	20	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	49.38	99	48.19	96	70-130	2	20	ug/L	
Carbon Tetrachloride	<0.2200	50.00	49.81	100	48.55	97	70-130	3	20	ug/L	
Benzene	<0.1900	50.00	48.33	97	47.65	95	65-135	1	20	ug/L	
1,2-Dichloroethane	<0.1800	50.00	49.18	98	48.70	97	70-130	1	20	ug/L	
Trichloroethene	<0.1900	50.00	48.28	97	47.24	94	65-135	2	20	ug/L	
1,2-Dichloropropane	<0.1700	50.00	48.77	98	48.28	97	35-165	1	20	ug/L	
Bromodichloromethane	<0.1800	50.00	50.58	101	50.22	100	65-135	1	20	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	53.93	108	53.37	107	25-175	1	20	ug/L	
Toluene	<0.5200	50.00	49.30	99	47.65	95	70-130	3	20	ug/L	
trans-1,3-dichloropropene	<0.1500	50.00	54.59	109	54.64	109	50-150	0	20	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	47.51	95	47.45	95	70-130	0	20	ug/L	
Tetrachloroethylene	<0.2300	50.00	48.83	98	47.30	95	70-130	3	20	ug/L	
Dibromochloromethane	<0.1800	50.00	49.39	99	50.22	100	70-135	2	20	ug/L	
Chlorobenzene	<0.2300	50.00	47.96	96	47.09	94	65-135	2	20	ug/L	
Ethylbenzene	<0.1500	50.00	52.08	104	50.53	101	60-140	3	20	ug/L	
Bromoform	<0.1700	50.00	47.30	95	47.80	96	70-130	1	20	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	42.01	84	44.66	89	60-140	6	20	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	47.02	94	47.38	95	70-130	1	20	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	45.01	90	45.15	90	65-135	0	20	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	45.68	91	46.35	93	65-135	1	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Dibromofluoromethane	101		109	*	103		94-108	%
4-Bromofluorobenzene	105		97		99		77-120	%
Toluene-D8	99		101		100		95-104	%

Project Name Kop-Flex
PSS Project No.: 24101806

Analytical Method: EPA 624 .1

Seq Number: 217336
MB Sample ID: 102564-1-BLK

Matrix: Water
LCS Sample ID: 102564-1-BKS

Prep Method: E624PREP
Date Prep: 11/01/24
LCSD Sample ID: 102564-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<26.00	30.00	32.65	109	32.57	109	54-145	0	20	ug/L	
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units			
Dibromofluoromethane	108		107		106		94-108	%			
4-Bromofluorobenzene	76	*	75	*	73	*	77-120	%			
Toluene-D8	102		101		101		95-104	%			

Analytical Method: EPA 624 .1

Seq Number: 217335
MB Sample ID: 102561-1-BLK

Matrix: Water
LCS Sample ID: 102561-1-BKS

Prep Method: E624PREP
Date Prep: 10/31/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
1,4-Dioxane	<26.00	30.00	33.91	113	54-145	ug/L	
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	
Dibromofluoromethane	108		105		94-108	%	
4-Bromofluorobenzene	75	*	74	*	77-120	%	
Toluene-D8	99		100		95-104	%	

Analytical Method: EPA 624 .1

Seq Number: 217335
Parent Sample ID: 24101806-002

Matrix: Waste Water
MS Sample ID: 24101806-002 S

Prep Method: E624PREP
Date Prep: 10/31/24
MSD Sample ID: 24101806-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	7.080	30.00	27.22	67	32.14	84	59-145	17	18	ug/L	
Surrogate			MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units			
Dibromofluoromethane			107		106		94-108	%			
4-Bromofluorobenzene			74	*	74	*	77-120	%			
Toluene-D8			99		99		95-104	%			

Project Name Kop-Flex

PSS Project No.: 24101806

Analytical Method: SW-846 8260 D

Seq Number: 217115

MB Sample ID: 102451-1-BLK

Matrix: Water

LCS Sample ID: 102451-1-BKS

Prep Method: SW5030B

Date Prep: 10/24/24

LCSD Sample ID: 102451-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acetone	<1.500	50.00	43.00	86	39.76	80	51-160	8	20	ug/L	
Benzene	<0.1900	50.00	54.41	109	50.93	102	79-118	7	20	ug/L	
Bromochloromethane	<0.2800	50.00	53.10	106	51.25	103	78-122	4	20	ug/L	
Bromodichloromethane	<0.1800	50.00	53.15	106	51.10	102	82-123	4	20	ug/L	
Bromoform	<0.1700	50.00	54.00	108	52.10	104	70-141	4	20	ug/L	
Bromomethane	<0.6000	50.00	53.98	108	50.95	102	50-142	6	20	ug/L	
2-Butanone (MEK)	<1.300	50.00	48.85	98	46.42	93	58-139	5	20	ug/L	
Carbon Disulfide	<0.3500	50.00	55.53	111	51.07	102	73-125	8	20	ug/L	
Carbon tetrachloride	<0.2200	50.00	51.96	104	48.31	97	77-126	7	20	ug/L	
Chlorobenzene	<0.2300	50.00	52.41	105	49.55	99	80-120	6	20	ug/L	
Chloroethane	<0.2300	50.00	53.62	107	49.79	100	70-122	7	20	ug/L	
Chloroform	<0.2100	50.00	52.14	104	49.33	99	77-115	6	20	ug/L	
Chloromethane	<0.3300	50.00	54.82	110	50.26	101	45-138	9	20	ug/L	
Cyclohexane	<0.3200	50.00	57.37	115	53.26	107	80-125	7	20	ug/L	
1,2-Dibromo-3-chloropropane	<0.1900	50.00	58.62	117	55.50	111	75-138	5	20	ug/L	
Dibromochloromethane	<0.1800	50.00	53.52	107	51.55	103	84-130	4	20	ug/L	
1,2-Dibromoethane	<0.2200	50.00	55.90	112	53.80	108	80-122	4	20	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	55.08	110	51.93	104	80-128	6	20	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	54.91	110	51.58	103	80-125	6	20	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	46.46	93	42.15	84	63-135	10	20	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	52.46	105	49.66	99	78-122	5	20	ug/L	
1,1-Dichloroethane	<0.1900	50.00	53.91	108	50.56	101	73-119	6	20	ug/L	
1,2-Dichloroethane	<0.1800	50.00	51.53	103	49.56	99	75-120	4	20	ug/L	
cis-1,2-Dichloroethene	<0.1900	50.00	55.59	111	52.50	105	77-120	6	20	ug/L	
1,2-Dichloropropane	<0.1700	50.00	54.91	110	52.50	105	78-122	4	20	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	59.02	118	56.47	113	73-133	4	20	ug/L	
trans-1,3-Dichloropropene	<0.1500	50.00	59.36	119	57.33	115	75-117	3	20	ug/L	H
trans-1,2-Dichloroethene	<0.2900	50.00	53.96	108	50.23	100	76-121	7	20	ug/L	
Ethylbenzene	<0.1500	50.00	56.94	114	53.56	107	82-125	6	20	ug/L	
2-Hexanone (MBK)	<0.8300	50.00	52.04	104	49.18	98	59-144	6	20	ug/L	
Isopropylbenzene	<0.2700	50.00	58.85	118	54.49	109	80-131	8	20	ug/L	
Methyl Acetate	<0.5000	50.00	57.28	115	54.35	109	71-128	5	20	ug/L	
Methylcyclohexane	<0.1400	50.00	56.17	112	51.61	103	81-122	8	20	ug/L	
Methylene chloride	<0.3400	50.00	53.08	106	50.12	100	79-120	6	20	ug/L	
4-Methyl-2-Pentanone (MIBK)	<0.6000	50.00	61.44	123	58.67	117	71-125	5	20	ug/L	
Methyl-t-Butyl Ether	<0.1700	50.00	59.92	120	57.48	115	74-118	4	20	ug/L	H
Naphthalene	<0.6000	50.00	63.05	126	57.95	116	59-141	8	20	ug/L	
Styrene	<0.1700	50.00	61.29	123	58.70	117	85-128	4	20	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	55.24	110	52.50	105	74-131	5	20	ug/L	
Tetrachloroethene	<0.2300	50.00	52.83	106	48.97	98	73-123	8	20	ug/L	
Toluene	<0.5200	50.00	55.25	111	51.95	104	78-118	6	20	ug/L	
1,2,3-Trichlorobenzene	<0.3000	50.00	60.18	120	55.88	112	80-136	7	20	ug/L	
1,2,4-Trichlorobenzene	<0.2600	50.00	60.71	121	56.11	112	77-137	8	20	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	52.95	106	49.15	98	74-119	7	20	ug/L	
Trichloroethene	<0.1900	50.00	53.34	107	50.07	100	78-120	6	20	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	52.91	106	50.44	101	81-121	5	20	ug/L	
Trichlorofluoromethane	<0.1700	50.00	49.87	100	46.05	92	77-119	8	20	ug/L	
1,1,2-Trichlorotrifluoroethane	<0.1700	50.00	50.72	101	46.95	94	71-121	8	20	ug/L	
Vinyl chloride	<0.3400	50.00	49.93	100	45.67	91	46-146	9	20	ug/L	
m&p-Xylene	<0.4000	100	114.2	114	107.6	108	83-124	6	20	ug/L	
o-Xylene	<0.1800	50.00	57.11	114	53.87	108	83-125	6	20	ug/L	

Project Name Kop-Flex

PSS Project No.: 24101806

Analytical Method: SW-846 8260 D

Seq Number: 217115

MB Sample ID: 102451-1-BLK

Matrix: Water

LCS Sample ID: 102451-1-BKS

Prep Method: SW5030B

Date Prep: 10/24/24

LCSD Sample ID: 102451-1-BSD

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
4-Bromofluorobenzene	108		100		100		85-122	%
Dibromofluoromethane	98		97		98		96-107	%
Toluene-D8	99		101		101		95-105	%

Analytical Method: SW-846 8260 D

Seq Number: 217296

MB Sample ID: 102543-1-BLK

Matrix: Water

LCS Sample ID: 102543-1-BKS

Prep Method: SW5030B

Date Prep: 10/30/24

LCSD Sample ID: 102543-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,1-Dichloroethene	<0.1800	50.00	53.50	107	42.80	86	70-122	22	20	ug/L	F

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
4-Bromofluorobenzene	107		94		97		85-122	%
Dibromofluoromethane	101		105		103		96-107	%
Toluene-D8	99		102		101		95-105	%

Project Name Kop-Flex

PSS Project No.: 24101806

Analytical Method: SW-846 8260 D

Seq Number: 217115

Parent Sample ID: 24101806-001

Matrix: Ground Water

MS Sample ID: 24101806-001 S

Prep Method: SW5030B

Date Prep: 10/24/24

MSD Sample ID: 24101806-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acetone	<1.500	50.00	16.22	32	18.98	38	8-106	16	25	ug/L	
Benzene	<0.1900	50.00	45.73	91	48.27	97	78-123	5	25	ug/L	
Bromochloromethane	<0.2800	50.00	45.81	92	48.85	98	79-122	6	25	ug/L	
Bromodichloromethane	<0.1800	50.00	46.21	92	49.53	99	79-124	7	25	ug/L	
Bromoform	<0.1700	50.00	44.92	90	48.38	97	71-129	7	25	ug/L	
Bromomethane	<0.6000	50.00	32.53	65	39.59	79	45-147	20	25	ug/L	
2-Butanone (MEK)	<1.300	50.00	27.65	55	31.11	62	37-106	12	25	ug/L	
Carbon Disulfide	<0.3500	50.00	48.59	97	49.34	99	66-136	2	25	ug/L	
Carbon tetrachloride	<0.2200	50.00	47.00	94	49.39	99	82-126	5	25	ug/L	
Chlorobenzene	<0.2300	50.00	44.63	89	47.30	95	79-121	6	25	ug/L	
Chloroethane	12.46	50.00	59.94	95	58.75	93	61-135	2	25	ug/L	
Chloroform	<0.2100	50.00	46.46	93	48.82	98	76-119	5	25	ug/L	
Chloromethane	<0.3300	50.00	46.14	92	48.16	96	34-154	4	25	ug/L	
Cyclohexane	<0.3200	50.00	47.73	95	50.06	100	76-134	5	25	ug/L	
1,2-Dibromo-3-chloropropane	<0.1900	50.00	42.33	85	46.69	93	70-124	10	25	ug/L	
Dibromochloromethane	<0.1800	50.00	45.03	90	48.62	97	82-125	8	25	ug/L	
1,2-Dibromoethane	<0.2200	50.00	45.40	91	49.67	99	76-120	9	25	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	45.08	90	47.54	95	78-123	5	25	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	45.36	91	47.90	96	78-122	5	25	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	45.44	91	45.98	92	57-145	1	25	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	43.72	87	46.29	93	75-119	6	25	ug/L	
1,1-Dichloroethane	85.20	50.00	132.7	95	133.9	97	69-126	1	25	ug/L	
1,2-Dichloroethane	1.860	50.00	46.64	90	50.12	97	72-123	7	25	ug/L	
cis-1,2-Dichloroethene	3.150	50.00	51.07	96	54.00	102	78-123	6	25	ug/L	
1,2-Dichloropropane	<0.1700	50.00	45.27	91	48.44	97	74-126	7	25	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	49.36	99	53.11	106	73-129	7	25	ug/L	
trans-1,3-Dichloropropene	<0.1500	50.00	48.86	98	53.24	106	72-116	9	25	ug/L	
trans-1,2-Dichloroethene	<0.2900	50.00	49.57	99	50.30	101	77-125	1	25	ug/L	
Ethylbenzene	<0.1500	50.00	48.91	98	51.19	102	80-128	5	25	ug/L	
2-Hexanone (MBK)	<0.8300	50.00	32.75	66	36.24	72	42-122	10	25	ug/L	
Isopropylbenzene	<0.2700	50.00	48.19	96	50.18	100	76-132	4	25	ug/L	
Methyl Acetate	<0.5000	50.00	43.34	87	47.21	94	61-120	9	25	ug/L	
Methylcyclohexane	<0.1400	50.00	47.24	94	49.25	99	78-129	4	25	ug/L	
Methylene chloride	<0.3400	50.00	47.23	94	48.30	97	77-123	2	25	ug/L	
4-Methyl-2-Pentanone (MIBK)	<0.6000	50.00	44.62	89	49.26	99	60-129	10	25	ug/L	
Methyl-t-Butyl Ether	<0.1700	50.00	49.33	99	52.27	105	68-120	6	25	ug/L	
Naphthalene	<0.6000	50.00	48.64	97	57.17	114	55-137	16	25	ug/L	
Styrene	<0.1700	50.00	52.64	105	55.45	111	82-128	5	25	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	41.60	83	44.90	90	68-127	8	25	ug/L	
Tetrachloroethene	<0.2300	50.00	46.35	93	49.04	98	74-129	6	25	ug/L	
Toluene	<0.5200	50.00	46.16	92	48.52	97	76-124	5	25	ug/L	
1,2,3-Trichlorobenzene	<0.3000	50.00	48.35	97	54.47	109	72-133	12	25	ug/L	
1,2,4-Trichlorobenzene	<0.2600	50.00	48.93	98	54.69	109	68-137	11	25	ug/L	
1,1,1-Trichloroethane	17.57	50.00	63.61	92	67.09	99	75-122	5	25	ug/L	
Trichloroethene	1.320	50.00	46.64	91	49.00	95	63-137	5	25	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	43.46	87	47.26	95	79-121	8	25	ug/L	
Trichlorofluoromethane	<0.1700	50.00	45.61	91	46.31	93	73-128	2	25	ug/L	
1,1,2-Trichlorotrifluoroethane	<0.1700	50.00	46.87	94	47.61	95	61-128	2	25	ug/L	
Vinyl chloride	<0.3400	50.00	48.20	96	49.33	99	47-154	2	25	ug/L	
m&p-Xylene	<0.4000	100	99.78	100	104.7	105	80-127	5	25	ug/L	
o-Xylene	<0.1800	50.00	49.98	100	51.99	104	81-126	4	25	ug/L	

QC Summary

Project Name Kop-Flex
PSS Project No.: 24101806

Analytical Method: SW-846 8260 D

Seq Number: 217115
Parent Sample ID: 24101806-001

Matrix: Ground Water
MS Sample ID: 24101806-001 S

Prep Method: SW5030B
Date Prep: 10/24/24
MSD Sample ID: 24101806-001 SD

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
4-Bromofluorobenzene	94		94		85-122	%
Dibromofluoromethane	103		102		96-107	%
Toluene-D8	100		101		95-105	%

Project Name Kop-Flex

PSS Project No.: 24101806

Analytical Method: EPA 200.8

CCV Sample Id: CCV 4 Seq Number: 217024

Analyzed Date: 10/21/24 20:23

Parameter	CCV %Rec	Limits	Flag
Copper	98	85-115	
Lead	101	85-115	
Nickel	95	85-115	
Zinc	95	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 5 Seq Number: 217024

Analyzed Date: 10/21/24 21:30

Parameter	CCV %Rec	Limits	Flag
Copper	99	85-115	
Lead	105	85-115	
Nickel	97	85-115	
Zinc	96	85-115	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 217024

Analyzed Date: 10/21/24 15:36

Parameter	ICV %Rec	Limits	Flag
Copper	102	90-110	
Lead	100	90-110	
Nickel	100	90-110	
Zinc	105	90-110	

Analytical Method: EPA 624 .1

CCV Sample Id: CCV, 624-1 Seq Number: 217023

Analyzed Date: 10/18/24 11:27

Parameter	CCV %Rec	Limits	Flag
Acrolein	112	60-140	
Acrylonitrile	92	60-140	
Dichlorodifluoromethane	83	59-110	
Chloromethane	62	1-205	
Vinyl Chloride	78	43-133	
Bromomethane	90	15-185	
Chloroethane	90	40-160	
Trichlorofluoromethane	91	70-130	
2-Chloroethyl Vinyl Ether	34	1-225	
1,1-Dichloroethene	92	50-150	
Methylene Chloride	100	76-125	
trans-1,2-dichloroethene	99	70-124	
1,1-Dichloroethane	85	70-130	
Chloroform	95	70-135	
1,1,1-Trichloroethane	91	70-130	
Carbon Tetrachloride	96	70-130	
Benzene	91	65-135	
1,2-Dichloroethane	93	70-130	
Trichloroethene	95	69-126	
1,2-Dichloropropane	88	35-165	
Bromodichloromethane	100	65-135	
cis-1,3-Dichloropropene	104	70-135	
Toluene	94	48-135	
trans-1,3-dichloropropene	105	39-176	
1,1,2-Trichloroethane	99	70-130	
Tetrachloroethylene	103	69-126	
Dibromochloromethane	109	51-128	
Chlorobenzene	98	65-135	
Ethylbenzene	94	71-124	
Bromoform	119	70-130	
1,1,2,2-Tetrachloroethane	85	60-140	
1,3-Dichlorobenzene	99	70-130	
1,4-Dichlorobenzene	96	65-135	
1,2-Dichlorobenzene	100	65-135	

Surrogate	Limits	Flag
Dibromofluoromethane	104	94-108
4-Bromofluorobenzene	88	77-120
Toluene-D8	101	95-104

Project Name Kop-Flex

PSS Project No.: 24101806

Analytical Method: EPA 624 .1

CCV Sample Id: CCV, VOC-1 Seq Number: 217250

Analyzed Date: 10/29/24 11:30

Analytical Method: EPA 624 .1

CCV Sample Id: CCV, 1,4-DIOX Seq Number: 217335

Analyzed Date: 10/31/24 17:23

Parameter	CCV %Rec	Limits	Flag
Acrolein	93	60-140	
Acrylonitrile	101	60-140	
Dichlorodifluoromethane	87	59-110	
Chloromethane	91	1-205	
Vinyl Chloride	94	43-133	
Bromomethane	97	15-185	
Chloroethane	97	40-160	
Trichlorofluoromethane	92	70-130	
2-Chloroethyl Vinyl Ether	73	1-225	
1,1-Dichloroethene	92	50-150	
Methylene Chloride	100	76-125	
trans-1,2-dichloroethene	99	70-124	
1,1-Dichloroethane	98	70-130	
Chloroform	99	70-135	
1,1,1-Trichloroethane	95	70-130	
Carbon Tetrachloride	97	70-130	
Benzene	95	65-135	
1,2-Dichloroethane	98	70-130	
Trichloroethene	93	69-126	
1,2-Dichloropropane	95	35-165	
Bromodichloromethane	99	65-135	
cis-1,3-Dichloropropene	104	70-135	
Toluene	98	48-135	
trans-1,3-dichloropropene	105	39-176	
1,1,2-Trichloroethane	93	70-130	
Tetrachloroethylene	95	69-126	
Dibromochloromethane	93	51-128	
Chlorobenzene	93	65-135	
Ethylbenzene	101	71-124	
Bromoform	90	70-130	
1,1,2,2-Tetrachloroethane	79	60-140	
1,3-Dichlorobenzene	89	70-130	
1,4-Dichlorobenzene	86	65-135	
1,2-Dichlorobenzene	87	65-135	

Surrogate	Limits	Flag
Dibromofluoromethane	105 94-108	
4-Bromofluorobenzene	97 77-120	
Toluene-D8	103 95-104	

Parameter	CCV %Rec	Limits	Flag
1,4-Dioxane	111	54-145	
Surrogate	Limits	Flag	
Dibromofluoromethane	106	94-108	
4-Bromofluorobenzene	72	77-120	X
Toluene-D8	98	95-104	

Analytical Method: EPA 624 .1

CCV Sample Id: CCV, 1,4-DIOX Seq Number: 217336

Analyzed Date: 11/01/24 11:35

Parameter	CCV %Rec	Limits	Flag
1,4-Dioxane	104	54-145	

Surrogate	Limits	Flag
-----------	--------	------

Project Name Kop-Flex

PSS Project No.: 24101806

Analytical Method: EPA 624 .1

CCV Sample Id: CCV, 1,4-DIOX Seq Number: 217336

Analyzed Date: 11/01/24 11:35

Surrogate		Limits	Flag
Dibromofluoromethane	106	94-108	
4-Bromofluorobenzene	74	77-120	X
Toluene-D8	100	95-104	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 214976

Analyzed Date: 08/05/24 14:21

Parameter	ICV %Rec	Limits	Flag
Acrolein	105	60-140	
Acrylonitrile	92	60-140	
Dichlorodifluoromethane	99	51-128	
Chloromethane	99	1-205	
Vinyl Chloride	114	5-195	
Bromomethane	117	15-185	
Chloroethane	95	40-160	
Trichlorofluoromethane	106	50-150	
2-Chloroethyl Vinyl Ether	91	1-225	
1,1-Dichloroethene	103	50-150	
Methylene Chloride	95	60-140	
trans-1,2-dichloroethene	106	70-130	
1,1-Dichloroethane	103	70-130	
Chloroform	103	70-135	
1,1,1-Trichloroethane	106	70-130	
Carbon Tetrachloride	108	70-130	
Benzene	103	65-135	
1,2-Dichloroethane	100	70-130	
Trichloroethene	105	65-135	
1,2-Dichloropropane	105	35-165	
Bromodichloromethane	108	65-135	
cis-1,3-Dichloropropene	114	25-175	
Toluene	104	70-130	
trans-1,3-dichloropropene	115	50-150	
1,1,2-Trichloroethane	102	70-130	
Tetrachloroethylene	107	70-130	
Dibromochloromethane	110	70-135	
Chlorobenzene	105	65-135	
Ethylbenzene	111	60-140	
Bromoform	110	70-130	
1,1,2,2-Tetrachloroethane	101	60-140	
1,3-Dichlorobenzene	108	70-130	
1,4-Dichlorobenzene	106	65-135	
1,2-Dichlorobenzene	108	65-135	

Surrogate		Limits	Flag
Dibromofluoromethane	99	94-108	
4-Bromofluorobenzene	100	77-120	
Toluene-D8	100	95-104	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 217077

Analyzed Date: 10/23/24 17:35

Parameter	ICV %Rec	Limits	Flag
1,4-Dioxane	107	54-145	

Surrogate		Limits	Flag
-----------	--	--------	------

Project Name Kop-Flex
PSS Project No.: 24101806

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 217077
Analyzed Date: 10/23/24 17:35

Surrogate		Limits	Flag
Dibromofluoromethane	100	94-108	
4-Bromofluorobenzene	99	77-120	
Toluene-D8	100	95-104	

Analytical Method: SW-846 8260 D

CCV Sample Id: CCV, VOC-1 Seq Number: 217115
Analyzed Date: 10/24/24 07:52

Parameter	CCV %Rec	Limits	Flag
Acetone	84	80-120	
Benzene	108	80-120	
Bromochloromethane	105	80-120	
Bromodichloromethane	105	80-120	
Bromoform	104	80-120	
Bromomethane	98	80-120	
2-Butanone (MEK)	96	80-120	
Carbon Disulfide	109	80-120	
Carbon tetrachloride	102	80-120	
Chlorobenzene	103	80-120	
Chloroethane	109	80-120	
Chloroform	104	80-120	
Chloromethane	113	80-120	
Cyclohexane	115	80-120	
1,2-Dibromo-3-chloropropane	110	80-120	
Dibromochloromethane	105	80-120	
1,2-Dibromoethane	109	80-120	
1,2-Dichlorobenzene	105	80-120	
1,3-Dichlorobenzene	104	80-120	
Dichlorodifluoromethane	100	80-120	
1,4-Dichlorobenzene	99	80-120	
1,1-Dichloroethane	107	80-120	
1,2-Dichloroethane	103	80-120	
cis-1,2-Dichloroethene	110	80-120	
1,2-Dichloropropane	109	80-120	
cis-1,3-Dichloropropene	115	80-120	
trans-1,3-Dichloropropene	116	80-120	
trans-1,2-Dichloroethene	107	80-120	
Ethylbenzene	112	80-120	
2-Hexanone (MBK)	102	80-120	
Isopropylbenzene	112	80-120	
Methyl Acetate	113	80-120	
Methylcyclohexane	112	80-120	
Methylene chloride	105	80-120	
4-Methyl-2-Pentanone (MIBK)	121	80-120	X
Methyl-t-Butyl Ether	117	80-120	
Naphthalene	111	80-120	
Styrene	121	80-120	X
1,1,2,2-Tetrachloroethane	106	80-120	
Tetrachloroethene	103	80-120	
Toluene	109	80-120	

Project Name Kop-Flex
PSS Project No.: 24101806

Analytical Method: SW-846 8260 D

CCV Sample Id: CCV, VOC-1 Seq Number: 217115
Analyzed Date: 10/24/24 07:52

Parameter	CCV %Rec	Limits	Flag
1,2,3-Trichlorobenzene	109	80-120	
1,2,4-Trichlorobenzene	109	80-120	
1,1,1-Trichloroethane	104	80-120	
Trichloroethene	106	80-120	
1,1,2-Trichloroethane	104	80-120	
Trichlorofluoromethane	101	80-120	
1,1,2-Trichlorotrifluoroethane	98	80-120	
Vinyl chloride	103	80-120	
m&p-Xylene	113	80-120	
o-Xylene	112	80-120	
Surrogate		Limits	Flag
4-Bromofluorobenzene	98	80-120	
Dibromofluoromethane	98	80-120	
Toluene-D8	101	80-120	

Analytical Method: SW-846 8260 D

CCV Sample Id: CCV, VOC-1 Seq Number: 217296
Analyzed Date: 10/30/24 11:18

Parameter	CCV %Rec	Limits	Flag
1,1-Dichloroethene	103	80-120	
Surrogate		Limits	Flag
4-Bromofluorobenzene	96	80-120	
Dibromofluoromethane	102	80-120	
Toluene-D8	102	80-120	

Analytical Method: SW-846 8260 D-SIM

CCV Sample Id: CCV-01 Seq Number: 213088
Analyzed Date: 05/25/24 15:01

Parameter	CCV %Rec	Limits	Flag
1,4-Dioxane (P-Dioxane)	107	80-120	
Surrogate		Limits	Flag
Toluene-D8	104	80-120	

Analytical Method: SW-846 8260 D-SIM

Parent Sample Id: ICV-01 Seq Number: 213088
Analyzed Date: 05/25/24 14:39

Parameter	ICV %Rec	Limits	Flag
1,4-Dioxane (P-Dioxane)	104	70-130	
Surrogate		Limits	Flag
Toluene-D8	102	80-120	

Sample Receipt Checklist

Project Name: Kop-Flex
PSS Project No.: 24101806

Client Name WSP USA - Herndon
Disposal Date 11/22/2024

Received By Tyler Enwright
Date Received 10/18/2024 11:55 AM
Delivered By Client
Tracking # Not Applicable
Logged In By Tyler Enwright

Shipping Container(s)

of Coolers 1

Custody Seal(s) Intact? N/A
Seal(s) Signed / Dated? N/A

Ice Present
Temp (°C) 4.7
Temp Blank Present Yes

Documentation

COC agrees with sample labels? Yes
Chain of Custody Yes

Sampler Name Stevie Henrick
MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes
Intact? Yes
Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? Yes

Total # of Samples Received 3
Total # of Containers Received 19

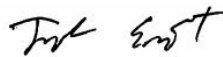
Preservation

Total Metals (pH<2) Yes
Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
Orthophosphorus, filtered within 15 minutes of collection N/A
Cyanides (pH>12) N/A
Sulfide (pH>9) N/A
TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
TOX, TKN, NH3, Total Phos (pH<2) N/A
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) Yes
Do VOA vials have zero headspace? Yes
624 VOC (Rcvd at least one unpreserved VOA vial) Yes
524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, the sample ID, preservative added, documentation of any client notification, and subsequent client instructions are noted below. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C, and <=4°C for EPA 524. Samples that are received by the lab on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that thermal preservation has begun.

Samples Inspected/Checklist Completed By:



Tyler Enwright

Date: 10/18/2024

PM Review and Approval:



Amber Confer

Date: 10/18/2024

Project Name: Kop-Flex
PSS Project No.: 24110621

November 8, 2024

Eric Johnson
WSP USA - Herndon
13530 Dulles Technology Dr, Ste 300
Herndon, VA 20171



Reference: PSS Project No: **24110621**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 31405608.010

Dear Eric Johnson:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24110621**.


All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on December 11, 2024, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,


Dan Prucnal

Laboratory Manager



Sample Summary

Project Name: Kop-Flex
PSS Project No.: 24110621

The following samples were received under chain of custody by Phase Separation Science (PSS) on 11/06/2024 at 04:10 pm
Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any
sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24110621-001	Effluent-VSP-4-110624	GROUND WATER	11/06/24 14:50

Report Information

Project Name: Kop-Flex
PSS Project No.: 24110621

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit (or MDL if shown).
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24110621

Sample ID: Effluent-VSP-4-110624 **Date/Time Sampled: 11/06/2024 14:50** **PSS Sample ID: 24110621-001**
Matrix: GROUND WATER **Date/Time Received: 11/06/2024 16:10**

Total Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Copper	6.3	ug/L	1.0		1	0.98	11/07/24	11/07/24 17:52	1059

Case Narrative

Project Name: Kop-Flex

PSS Project No.: 24110621

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Lab Chronology

Project Name: Kop-Flex
 PSS Project No.: 24110621

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 200.8	24110621-001	558	Initial	W	102614	217477	11/07/2024 08:50	11/07/2024 17:52
	102614-1-BKS		BKS	W	102614	217477	11/07/2024 08:50	11/07/2024 16:40
	102614-1-BLK		BLK	W	102614	217477	11/07/2024 08:50	11/07/2024 16:34
	24110502-001 S	388	MS	W	102614	217477	11/07/2024 08:50	11/07/2024 16:51
	24110502-001 SD	388	MSD	W	102614	217477	11/07/2024 08:50	11/07/2024 16:56

QC Summary

Project Name Kop-Flex
PSS Project No.: 24110621

Analytical Method: EPA 200.8

Seq Number: 217477

MB Sample ID: 102614-1-BLK

Matrix: Water

LCS Sample ID: 102614-1-BKS

Prep Method: E200.8_PREP

Date Prep: 11/07/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Copper	<0.9800	50.00	54.15	108	85-115	ug/L	

Project Name Kop-Flex
PSS Project No.: 24110621

Analytical Method: EPA 200.8

CCV Sample Id: CCV 1 Seq Number: 217477
Analyzed Date: 11/07/24 17:41

Parameter	CCV %Rec	Limits	Flag
Copper	111	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 2 Seq Number: 217477
Analyzed Date: 11/07/24 18:58

Parameter	CCV %Rec	Limits	Flag
Copper	107	85-115	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 217477
Analyzed Date: 11/07/24 16:12

Parameter	ICV %Rec	Limits	Flag
Copper	105	90-110	

**PHASE
SEPARATION
SCIENCE**

CHAIN OF CUSTODY FORM

All fields must be completed accurately. Shaded sections for lab use only.

www.phaseonline.com ~ info@phaseonline.com

6630 Baltimore National Pike • Suite 103-A • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047

PSS CLIENT: WSP		OFFICE LOCATION: Hamdon, VA		PSS Work Order #: 24110621				PAGE 1 OF 1					
BILL TO (if different):		PHONE #:		Matrix Codes: SW=Surface Water DW=Drinking Water GW=Ground Water WW=Waste Water O=Oil S=Soil SOL=Solid A=Air WI=Wipe									
CONTACT: Eric Johnson		EMAIL: eric.johnson@wsp.com		# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes 3						Preservative Codes 1 - HCL 2 - H ₂ SO ₄ 3 - HNO ₃ 4 - NaOH 5 - E624KIT 6 - ICE 7 - Sodium Thiosulfate 8 - Ascorbic Acid 9 - TerraCore Kit	
PROJECT NAME: Kopflex		PROJECT #: 31405608.010				Analysis/Method Required ③ <i>Total Copper</i>							
SITE LOCATION: Harover, MD		P.O. #:											
SAMPLER(S): SPH		DW CERT #:											
PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Analysis/Method Required						Preservative Codes
1	effluent-VSP-4-110024	11/6/24	1450	GW	1	G	Analysis/Method Required						1 - HCL
													2 - H ₂ SO ₄
													3 - HNO ₃
													4 - NaOH
													5 - E624KIT
													6 - ICE
													7 - Sodium Thiosulfate
													8 - Ascorbic Acid
													9 - TerraCore Kit

Relinquished By: (1)	Date: 11/6/24	Time: 6:10	Received By:	Requested TAT (One TAT per COC) <input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input type="checkbox"/> Other	Ice Present: Pres
Relinquished By: (2)	Date:	Time: 7:10 TE	Received By:		STATE RESULTS REPORTED TO: <input type="checkbox"/> MD <input type="checkbox"/> DE <input type="checkbox"/> PA <input type="checkbox"/> VA <input type="checkbox"/> WV <input type="checkbox"/> OTHER
Relinquished By: (3)	Date:	Time:	Received By:	COMPLIANCE? <input type="checkbox"/> DW <input type="checkbox"/> WW	# Coolers: 1 Temp: 8.3°C
Relinquished By: (4)	Date:	Time:	Received By:	EDD FORMAT TYPE	Shipping Carrier: Client

Special Instructions: **Temp Blank: 7.9°C**
48hr TAT

This chain of custody is a legal document. The client (PSS Client), by signing, or having client's agent sign, this "Chain of Custody Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

Sample Receipt Checklist

Project Name: Kop-Flex
 PSS Project No.: 24110621

Client Name WSP USA - Herndon
Disposal Date 12/11/2024

Received By Tyler Enwright
Date Received 11/06/2024 04:10 PM
Delivered By Client
Tracking # Not Applicable
Logged In By Tyler Enwright

Shipping Container(s)

of Coolers 1

Custody Seal(s) Intact? N/A
 Seal(s) Signed / Dated? N/A

Ice Present
 Temp (°C) 8.3
 Temp Blank Present Yes

Documentation

COC agrees with sample labels? Yes
 Chain of Custody Yes

Sampler Name Stevie Henrick
 MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes
 Intact? Yes
 Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
 Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? Yes

Total # of Samples Received 1
 Total # of Containers Received 1

Preservation

Total Metals (pH<2) Yes
 Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
 Orthophosphorus, filtered within 15 minutes of collection N/A
 Cyanides (pH>12) N/A
 Sulfide (pH>9) N/A
 TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
 TOX, TKN, NH3, Total Phos (pH<2) N/A
 VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) N/A
 Do VOA vials have zero headspace? N/A
 624 VOC (Rcvd at least one unpreserved VOA vial) N/A
 524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, the sample ID, preservative added, documentation of any client notification, and subsequent client instructions are noted below. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C, and <=4°C for EPA 524. Samples that are received by the lab on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that thermal preservation has begun.

Samples Inspected/Checklist Completed By: Tyler Enwright
 Tyler Enwright

Date: 11/06/2024

PM Review and Approval: Amber Confer
 Amber Confer

Date: 11/07/2024

Project Name: Kop-Flex
PSS Project No.: 24111802

December 4, 2024

Eric Johnson
WSP USA - Herndon
13530 Dulles Technology Dr, Ste 300
Herndon, VA 20171



Reference: PSS Project No: **24111802**
Project Name: Kop-Flex
Project Location: Harmans, MD
Project ID.: 31405608.010/02

Dear Eric Johnson:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24111802**.


All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on December 23, 2024, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,


Dan Prucnal

Laboratory Manager



Sample Summary

Project Name: Kop-Flex
 PSS Project No.: 24111802

The following samples were received under chain of custody by Phase Separation Science (PSS) on 11/18/2024 at 01:12 pm
 Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any
 sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24111802-001	Effluent VSP-4	WASTE WATER	11/18/24 11:30
24111802-002	TB-1118824	WATER	11/18/24 00:00

Project Name: Kop-Flex
PSS Project No.: 24111802

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit (or MDL if shown).
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24111802

Sample ID: Effluent VSP-4 **PSS Sample ID: 24111802-001**
Date/Time Sampled: 11/18/2024 11:30 **Matrix: WASTE WATER**

Total Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Copper	8.9	ug/L	1.0		1	0.98	11/21/24	11/21/24 19:00	1059
Lead	ND	ug/L	1.0		1	0.66	11/21/24	11/21/24 19:00	1059
Nickel	16.3	ug/L	1.00		1	0.95	11/21/24	11/21/24 19:00	1059
Zinc	33.7	ug/L	20.0		1	7.1	11/21/24	11/21/24 19:00	1059

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	12/02/24	12/02/24 19:57	1045
Surrogate(s)	Recovery		Limits						
Dibromofluoromethane	123	%	95-109	*	1		12/02/24	12/02/24 19:57	1045
4-Bromofluorobenzene	78	%	74-124		1		12/02/24	12/02/24 19:57	1045
Toluene-D8	99	%	94-108		1		12/02/24	12/02/24 19:57	1045

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 217808 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	11/19/24	11/19/24 21:22	1045
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	11/19/24	11/19/24 21:22	1045
Acrylonitrile	ND	ug/L	5.0		1	1.5	11/19/24	11/19/24 21:22	1045
Chloromethane	ND	ug/L	1.0		1	0.33	11/19/24	11/19/24 21:22	1045
Vinyl Chloride	ND	ug/L	1.0		1	0.34	11/19/24	11/19/24 21:22	1045
Bromomethane	ND	ug/L	1.0		1	0.6	11/19/24	11/19/24 21:22	1045
Chloroethane	ND	ug/L	1.0		1	0.23	11/19/24	11/19/24 21:22	1045
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	11/19/24	11/19/24 21:22	1045
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	11/19/24	11/19/24 21:22	1045
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	11/19/24	11/19/24 21:22	1045
Methylene Chloride	ND	ug/L	1.0		1	0.34	11/19/24	11/19/24 21:22	1045
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	11/19/24	11/19/24 21:22	1045
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	11/19/24	11/19/24 21:22	1045
Chloroform	ND	ug/L	1.0		1	0.21	11/19/24	11/19/24 21:22	1045
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	11/19/24	11/19/24 21:22	1045
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	11/19/24	11/19/24 21:22	1045
Benzene	ND	ug/L	1.0		1	0.19	11/19/24	11/19/24 21:22	1045

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24111802

Sample ID: Effluent VSP-4 **PSS Sample ID: 24111802-001**
Date/Time Sampled: 11/18/2024 11:30 **Matrix: WASTE WATER**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 217808 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	11/19/24	11/19/24 21:22	1045
Trichloroethene	ND	ug/L	1.0		1	0.19	11/19/24	11/19/24 21:22	1045
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	11/19/24	11/19/24 21:22	1045
Bromodichloromethane	ND	ug/L	1.0		1	0.18	11/19/24	11/19/24 21:22	1045
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	11/19/24	11/19/24 21:22	1045
Toluene	ND	ug/L	1.0		1	0.52	11/19/24	11/19/24 21:22	1045
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	11/19/24	11/19/24 21:22	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	11/19/24	11/19/24 21:22	1045
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	11/19/24	11/19/24 21:22	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	11/19/24	11/19/24 21:22	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	11/19/24	11/19/24 21:22	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	11/19/24	11/19/24 21:22	1045
Bromoform	ND	ug/L	1.0		1	0.17	11/19/24	11/19/24 21:22	1045
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	11/19/24	11/19/24 21:22	1045
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	11/19/24	11/19/24 21:22	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	11/19/24	11/19/24 21:22	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	11/19/24	11/19/24 21:22	1045
Surrogate(s)	Recovery		Limits						
Dibromofluoromethane	101 %		95-109		1		11/19/24	11/19/24 21:22	1045
4-Bromofluorobenzene	94 %		74-124		1		11/19/24	11/19/24 21:22	1045
Toluene-D8	101 %		94-108		1		11/19/24	11/19/24 21:22	1045

Total Suspended Solids Analytical Method: SM 2540D -2015

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Total Suspended Solids	ND	mg/L	1.0		1	0.4	11/18/24	11/18/24 19:20	1074

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24111802

Sample ID: TB-1118824 **PSS Sample ID: 24111802-002**
Date/Time Sampled: 11/18/2024 00:00 **Matrix: WATER**

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	12/02/24	12/02/24 20:18	1045
Surrogate(s)	Recovery		Limits						
Dibromofluoromethane	124	%	95-109	*	1		12/02/24	12/02/24 20:18	1045
4-Bromofluorobenzene	78	%	74-124		1		12/02/24	12/02/24 20:18	1045
Toluene-D8	97	%	94-108		1		12/02/24	12/02/24 20:18	1045

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 217808 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	11/19/24	11/19/24 21:01	1045
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	11/19/24	11/19/24 21:01	1045
Acrylonitrile	ND	ug/L	5.0		1	1.5	11/19/24	11/19/24 21:01	1045
Chloromethane	ND	ug/L	1.0		1	0.33	11/19/24	11/19/24 21:01	1045
Vinyl Chloride	ND	ug/L	1.0		1	0.34	11/19/24	11/19/24 21:01	1045
Bromomethane	ND	ug/L	1.0		1	0.6	11/19/24	11/19/24 21:01	1045
Chloroethane	ND	ug/L	1.0		1	0.23	11/19/24	11/19/24 21:01	1045
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	11/19/24	11/19/24 21:01	1045
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	11/19/24	11/19/24 21:01	1045
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	11/19/24	11/19/24 21:01	1045
Methylene Chloride	ND	ug/L	1.0		1	0.34	11/19/24	11/19/24 21:01	1045
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	11/19/24	11/19/24 21:01	1045
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	11/19/24	11/19/24 21:01	1045
Chloroform	ND	ug/L	1.0		1	0.21	11/19/24	11/19/24 21:01	1045
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	11/19/24	11/19/24 21:01	1045
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	11/19/24	11/19/24 21:01	1045
Benzene	ND	ug/L	1.0		1	0.19	11/19/24	11/19/24 21:01	1045
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	11/19/24	11/19/24 21:01	1045
Trichloroethene	ND	ug/L	1.0		1	0.19	11/19/24	11/19/24 21:01	1045
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	11/19/24	11/19/24 21:01	1045
Bromodichloromethane	ND	ug/L	1.0		1	0.18	11/19/24	11/19/24 21:01	1045
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	11/19/24	11/19/24 21:01	1045
Toluene	ND	ug/L	1.0		1	0.52	11/19/24	11/19/24 21:01	1045
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	11/19/24	11/19/24 21:01	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	11/19/24	11/19/24 21:01	1045

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24111802

Sample ID: TB-1118824 **PSS Sample ID: 24111802-002**
Date/Time Sampled: 11/18/2024 00:00 **Matrix: WATER**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 217808 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	11/19/24	11/19/24 21:01	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	11/19/24	11/19/24 21:01	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	11/19/24	11/19/24 21:01	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	11/19/24	11/19/24 21:01	1045
Bromoform	ND	ug/L	1.0		1	0.17	11/19/24	11/19/24 21:01	1045
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	11/19/24	11/19/24 21:01	1045
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	11/19/24	11/19/24 21:01	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	11/19/24	11/19/24 21:01	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	11/19/24	11/19/24 21:01	1045
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	103 %		95-109		1		11/19/24	11/19/24 21:01	1045
<i>4-Bromofluorobenzene</i>	98 %		74-124		1		11/19/24	11/19/24 21:01	1045
<i>Toluene-D8</i>	101 %		94-108		1		11/19/24	11/19/24 21:01	1045

Case Narrative

Project Name: Kop-Flex

PSS Project No.: 24111802

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

Analytical:

Volatile Organics Compounds

Batch: 217808

Method exceedance: Continuing calibration verification standard (CCV) exceedance identified; see QC summary.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

EPA 624 .1: 1,4-Dioxane

Lab Chronology

Project Name: Kop-Flex
PSS Project No.: 24111802

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 200.8	24111802-001	747	Initial	W	102784	217800	11/21/2024 09:10	11/21/2024 19:00
	102784-1-BKS		BKS	W	102784	217800	11/21/2024 09:10	11/21/2024 18:55
	102784-1-BLK		BLK	W	102784	217800	11/21/2024 09:10	11/21/2024 18:49
	24111802-001 S	747	MS	W	102784	217800	11/21/2024 09:10	11/21/2024 19:06
	24111802-001 SD	747	MSD	W	102784	217800	11/21/2024 09:10	11/21/2024 19:11
EPA 624 .1	24111802-001	749	Initial	W	102812	217808	11/19/2024 11:58	11/19/2024 21:22
	24111802-002	757	Initial	W	102812	217808	11/19/2024 11:58	11/19/2024 21:01
	102812-1-BKS		BKS	W	102812	217808	11/19/2024 11:58	11/19/2024 12:19
	102812-1-BLK		BLK	W	102812	217808	11/19/2024 11:58	11/19/2024 14:45
	102812-1-BSD		BSD	W	102812	217808	11/19/2024 11:58	11/19/2024 12:40
	24111802-001 S	748	MS	W	102812	217808	11/19/2024 11:58	11/19/2024 21:43
	24111802-001 SD	748	MSD	W	102812	217808	11/19/2024 11:58	11/19/2024 22:04
EPA 624 .1	24111802-001	753	Initial	W	102916	218033	12/02/2024 17:28	12/02/2024 19:57
	24111802-002	755	Initial	W	102916	218033	12/02/2024 17:28	12/02/2024 20:18
	102916-1-BKS		BKS	W	102916	218033	12/02/2024 17:28	12/02/2024 17:52
	102916-1-BLK		BLK	W	102916	218033	12/02/2024 17:28	12/02/2024 19:36
	102916-1-BSD		BSD	W	102916	218033	12/02/2024 17:28	12/02/2024 18:13
	24111802-001 S	752	MS	W	102916	218033	12/02/2024 17:28	12/02/2024 18:34
	24111802-001 SD	752	MSD	W	102916	218033	12/02/2024 17:28	12/02/2024 18:54
SM 2540D -2015	24111802-001	746	Initial	W	217694	217694	11/18/2024 19:20	11/18/2024 19:20
	217694-1-BKS		BKS	W	217694	217694	11/18/2024 19:20	11/18/2024 19:20
	217694-1-BLK		BLK	W	217694	217694	11/18/2024 19:20	11/18/2024 19:20
	24111515-001 D	732	MD	W	217694	217694	11/18/2024 19:20	11/18/2024 19:20

Project Name Kop-Flex
PSS Project No.: 24111802

Analytical Method: SM 2540D -2015

Seq Number: 217694 Matrix: Water
MB Sample ID: 217694-1-BLK LCS Sample ID: 217694-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Total Suspended Solids	<0.4000	101.3	97.80	97	88-109	mg/L	

Analytical Method: EPA 200.8

Seq Number: 217800 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 102784-1-BLK LCS Sample ID: 102784-1-BKS Date Prep: 11/21/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Copper	<0.9800	50.00	49.99	100	85-115	ug/L	
Lead	<0.6600	50.00	50.76	102	85-115	ug/L	
Nickel	<0.9500	50.00	48.87	98	85-115	ug/L	
Zinc	<7.100	100	100.4	100	85-115	ug/L	

Analytical Method: EPA 200.8

Seq Number: 217800 Matrix: Waste Water Prep Method: E200.8_PREP
Parent Sample ID: 24111802-001 MS Sample ID: 24111802-001 S Date Prep: 11/21/24
MSD Sample ID: 24111802-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Copper	8.882	50.00	58.32	99	58.50	99	70-130	0	25	ug/L	
Lead	<0.6600	50.00	51.40	103	53.70	107	70-130	4	25	ug/L	
Nickel	16.32	50.00	64.64	97	65.20	98	70-130	1	25	ug/L	
Zinc	33.71	100	133.6	100	134.8	101	70-130	1	25	ug/L	

Project Name Kop-Flex

PSS Project No.: 24111802

Analytical Method: EPA 624 .1

Seq Number: 217808

MB Sample ID: 102812-1-BLK

Matrix: Water

LCS Sample ID: 102812-1-BKS

Prep Method: E624PREP

Date Prep: 11/19/24

LCSD Sample ID: 102812-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acrolein	<1.700	50.00	77.73	155	70.72	141	60-140	9	20	ug/L	H
Acrylonitrile	<1.500	50.00	49.14	98	48.91	98	60-140	0	20	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	55.90	112	46.93	94	37-142	17	20	ug/L	
Chloromethane	<0.3300	50.00	42.63	85	35.96	72	1-205	17	20	ug/L	
Vinyl Chloride	<0.3400	50.00	46.75	94	38.38	77	5-195	20	20	ug/L	
Bromomethane	<0.6000	50.00	49.03	98	44.92	90	15-185	9	20	ug/L	
Chloroethane	<0.2300	50.00	56.62	113	48.34	97	40-160	16	20	ug/L	
Trichlorofluoromethane	<0.1700	50.00	52.07	104	44.98	90	50-150	15	20	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	46.04	92	41.81	84	1-225	10	20	ug/L	
1,1-Dichloroethene	<0.1800	50.00	49.45	99	44.94	90	50-150	10	20	ug/L	
Methylene Chloride	<0.3400	50.00	48.43	97	49.52	99	60-140	2	20	ug/L	
trans-1,2-dichloroethene	<0.2900	50.00	48.23	96	48.39	97	70-130	0	20	ug/L	
1,1-Dichloroethane	<0.1900	50.00	44.25	89	42.48	85	70-130	4	20	ug/L	
Chloroform	<0.2100	50.00	47.89	96	45.88	92	70-135	4	20	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	48.07	96	44.30	89	70-130	8	20	ug/L	
Carbon Tetrachloride	<0.2200	50.00	50.24	100	46.79	94	70-130	7	20	ug/L	
Benzene	<0.1900	50.00	47.03	94	45.59	91	65-135	3	20	ug/L	
1,2-Dichloroethane	<0.1800	50.00	48.49	97	44.21	88	70-130	9	20	ug/L	
Trichloroethene	<0.1900	50.00	53.81	108	47.05	94	65-135	13	20	ug/L	
1,2-Dichloropropane	<0.1700	50.00	51.06	102	44.85	90	35-165	13	20	ug/L	
Bromodichloromethane	<0.1800	50.00	52.97	106	46.77	94	65-135	12	20	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	55.81	112	49.43	99	25-175	12	20	ug/L	
Toluene	<0.5200	50.00	56.08	112	48.18	96	70-130	15	20	ug/L	
trans-1,3-dichloropropene	<0.1500	50.00	55.45	111	49.21	98	50-150	12	20	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	54.45	109	49.04	98	70-130	10	20	ug/L	
Tetrachloroethylene	<0.2300	50.00	57.45	115	49.33	99	70-130	15	20	ug/L	
Dibromochloromethane	<0.1800	50.00	47.71	95	48.03	96	70-135	1	20	ug/L	
Chlorobenzene	<0.2300	50.00	48.64	97	47.35	95	65-135	3	20	ug/L	
Ethylbenzene	<0.1500	50.00	49.34	99	47.93	96	60-140	3	20	ug/L	
Bromoform	<0.1700	50.00	50.24	100	51.43	103	70-130	2	20	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	43.35	87	44.14	88	60-140	2	20	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	49.71	99	49.11	98	70-130	1	20	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	48.44	97	47.56	95	65-135	2	20	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	51.12	102	50.56	101	65-135	1	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Dibromofluoromethane	102		100		102		95-109	%
4-Bromofluorobenzene	97		93		93		74-124	%
Toluene-D8	104		115	*	102		94-108	%

QC Summary

Project Name Kop-Flex
PSS Project No.: 24111802

Analytical Method: EPA 624 .1

Seq Number: 218033

MB Sample ID: 102916-1-BLK

Matrix: Water

LCS Sample ID: 102916-1-BKS

Prep Method: E624PREP

Date Prep: 12/02/24

LCSD Sample ID: 102916-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<26.00	30.00	30.02	100	35.63	119	59-164	17	20	ug/L	
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units			
Dibromofluoromethane	125	*	121	*	122	*	95-109	%			
4-Bromofluorobenzene	79		80		79		74-124	%			
Toluene-D8	98		102		99		94-108	%			

Project Name Kop-Flex
PSS Project No.: 24111802

Analytical Method: EPA 624 .1

Seq Number: 217808

Parent Sample ID: 24111802-001

Matrix: Waste Water

MS Sample ID: 24111802-001 S

Prep Method: E624PREP

Date Prep: 11/19/24

MSD Sample ID: 24111802-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acrolein	<1.700	50.00	73.09	146	71.94	144	40-160	2	60	ug/L	
Acrylonitrile	<1.500	50.00	44.80	90	43.67	87	40-160	3	60	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	52.85	106	43.14	86	47-138	20	28	ug/L	
Chloromethane	<0.3300	50.00	40.52	81	35.17	70	1-273	14	60	ug/L	
Vinyl Chloride	<0.3400	50.00	45.16	90	37.85	76	1-251	18	66	ug/L	
Bromomethane	<0.6000	50.00	41.67	83	40.51	81	1-242	3	61	ug/L	
Chloroethane	<0.2300	50.00	53.91	108	45.60	91	14-230	17	78	ug/L	
Trichlorofluoromethane	<0.1700	50.00	50.36	101	43.93	88	17-181	14	84	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	40.03	80	39.94	80	1-305	0	71	ug/L	
1,1-Dichloroethene	<0.1800	50.00	48.56	97	41.84	84	1-234	15	32	ug/L	
Methylene Chloride	<0.3400	50.00	46.53	93	43.36	87	1-221	7	28	ug/L	
trans-1,2-dichloroethene	<0.2900	50.00	47.09	94	41.64	83	54-156	12	45	ug/L	
1,1-Dichloroethane	<0.1900	50.00	42.50	85	38.41	77	59-155	10	40	ug/L	
Chloroform	<0.2100	50.00	46.25	93	42.05	84	51-138	10	54	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	46.19	92	41.08	82	52-162	12	36	ug/L	
Carbon Tetrachloride	<0.2200	50.00	48.49	97	42.34	85	70-140	14	41	ug/L	
Benzene	<0.1900	50.00	45.81	92	41.44	83	37-151	10	61	ug/L	
1,2-Dichloroethane	<0.1800	50.00	45.57	91	42.52	85	49-155	7	49	ug/L	
Trichloroethene	<0.1900	50.00	51.90	104	46.86	94	70-157	10	48	ug/L	
1,2-Dichloropropane	<0.1700	50.00	48.46	97	44.76	90	1-210	8	55	ug/L	
Bromodichloromethane	<0.1800	50.00	50.07	100	46.17	92	35-155	8	56	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	52.19	104	48.57	97	1-227	7	58	ug/L	
Toluene	<0.5200	50.00	53.29	107	47.97	96	47-150	11	41	ug/L	
trans-1,3-dichloropropene	<0.1500	50.00	51.27	103	48.64	97	17-183	5	86	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	52.03	104	49.33	99	52-150	5	45	ug/L	
Tetrachloroethylene	<0.2300	50.00	54.93	110	49.06	98	64-148	11	39	ug/L	
Dibromochloromethane	<0.1800	50.00	47.86	96	46.05	92	53-149	4	50	ug/L	
Chlorobenzene	<0.2300	50.00	48.61	97	45.00	90	37-160	8	53	ug/L	
Ethylbenzene	<0.1500	50.00	49.56	99	44.86	90	37-162	10	63	ug/L	
Bromoform	<0.1700	50.00	49.92	100	48.85	98	45-169	2	42	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	43.08	86	46.92	94	46-157	9	61	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	49.96	100	47.69	95	59-156	5	43	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	48.68	97	47.06	94	18-190	3	57	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	51.45	103	53.09	106	18-190	3	57	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	99		98		95-109	%
4-Bromofluorobenzene	93		102		74-124	%
Toluene-D8	110	*	108		94-108	%

QC Summary

Project Name Kop-Flex
PSS Project No.: 24111802

Analytical Method: EPA 624 .1

Seq Number: 218033

Parent Sample ID: 24111802-001

Matrix: Waste Water

MS Sample ID: 24111802-001 S

Prep Method: E624PREP

Date Prep: 12/02/24

MSD Sample ID: 24111802-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<1.000	30.00	38.72	129	34.52	115	44-172	11	21	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Dibromofluoromethane	121	*	120	*	95-109	%
4-Bromofluorobenzene	78		79		74-124	%
Toluene-D8	97		98		94-108	%

Project Name Kop-Flex
PSS Project No.: 24111802

Analytical Method: EPA 200.8

CCV Sample Id: CCV 1 Seq Number: 217800
Analyzed Date: 11/21/24 18:10

Parameter	CCV %Rec	Limits	Flag
Copper	97	85-115	
Lead	100	85-115	
Nickel	96	85-115	
Zinc	96	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 2 Seq Number: 217800
Analyzed Date: 11/21/24 19:22

Parameter	CCV %Rec	Limits	Flag
Copper	97	85-115	
Lead	99	85-115	
Nickel	94	85-115	
Zinc	96	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 3 Seq Number: 217800
Analyzed Date: 11/21/24 20:18

Parameter	CCV %Rec	Limits	Flag
Copper	98	85-115	
Lead	111	85-115	
Nickel	97	85-115	
Zinc	101	85-115	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 217800
Analyzed Date: 11/21/24 16:47

Parameter	ICV %Rec	Limits	Flag
Copper	101	90-110	
Lead	103	90-110	
Nickel	98	90-110	
Zinc	100	90-110	

Analytical Method: EPA 624 .1

CCV Sample Id: CCV, 624-1 Seq Number: 217808
Analyzed Date: 11/19/24 11:58

Parameter	CCV %Rec	Limits	Flag
Acrolein	132	60-140	
Acrylonitrile	83	60-140	
Dichlorodifluoromethane	97	59-110	
Chloromethane	75	1-205	
Vinyl Chloride	82	43-133	
Bromomethane	80	15-185	
Chloroethane	98	40-160	
Trichlorofluoromethane	93	70-130	
2-Chloroethyl Vinyl Ether	79	1-225	
1,1-Dichloroethene	89	50-150	
Methylene Chloride	86	76-125	
trans-1,2-dichloroethene	87	70-124	
1,1-Dichloroethane	79	70-130	
Chloroform	93	70-135	
1,1,1-Trichloroethane	91	70-130	
Carbon Tetrachloride	96	70-130	
Benzene	92	65-135	
1,2-Dichloroethane	89	70-130	
Trichloroethene	95	69-126	
1,2-Dichloropropane	89	35-165	
Bromodichloromethane	94	65-135	
cis-1,3-Dichloropropene	98	70-135	
Toluene	95	48-135	
trans-1,3-dichloropropene	97	39-176	
1,1,2-Trichloroethane	96	70-130	
Tetrachloroethylene	98	69-126	
Dibromochloromethane	99	51-128	
Chlorobenzene	96	65-135	

Project Name Kop-Flex
PSS Project No.: 24111802

Analytical Method: EPA 624 .1

CCV Sample Id: CCV, 624-1 Seq Number: 217808
Analyzed Date: 11/19/24 11:58

Parameter	CCV %Rec	Limits	Flag
Ethylbenzene	99	71-124	
Bromoform	103	70-130	
1,1,2,2-Tetrachloroethane	89	60-140	
1,3-Dichlorobenzene	102	70-130	
1,4-Dichlorobenzene	99	65-135	
1,2-Dichlorobenzene	105	65-135	
Surrogate		Limits	Flag
Dibromofluoromethane	102	95-109	
4-Bromofluorobenzene	94	74-124	
Toluene-D8	100	94-108	

Analytical Method: EPA 624 .1

CCV Sample Id: CCV, 1,4-DIOX Seq Number: 218033
Analyzed Date: 12/02/24 17:28

Parameter	CCV %Rec	Limits	Flag
1,4-Dioxane	99	54-145	
Surrogate		Limits	Flag
Dibromofluoromethane	121	95-109	X
4-Bromofluorobenzene	81	74-124	
Toluene-D8	101	94-108	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV, 624-1 Seq Number: 217666
Analyzed Date: 11/15/24 18:12

Parameter	ICV %Rec	Limits	Flag
Acrolein	108	60-140	
Acrylonitrile	97	60-140	
Dichlorodifluoromethane	101	51-128	
Chloromethane	96	1-205	
Vinyl Chloride	96	5-195	
Bromomethane	103	15-185	
Chloroethane	107	40-160	
Trichlorofluoromethane	91	50-150	
2-Chloroethyl Vinyl Ether	104	1-225	
1,1-Dichloroethene	99	50-150	
Methylene Chloride	100	60-140	
trans-1,2-dichloroethene	101	70-130	
1,1-Dichloroethane	95	70-130	
Chloroform	96	70-135	
1,1,1-Trichloroethane	97	70-130	
Carbon Tetrachloride	96	70-130	
Benzene	96	65-135	
1,2-Dichloroethane	92	70-130	
Trichloroethene	95	65-135	
1,2-Dichloropropane	96	35-165	
Bromodichloromethane	97	65-135	
cis-1,3-Dichloropropene	102	25-175	
Toluene	99	70-130	
trans-1,3-dichloropropene	102	50-150	
1,1,2-Trichloroethane	95	70-130	
Tetrachloroethylene	97	70-130	
Dibromochloromethane	95	70-135	
Chlorobenzene	93	65-135	
Ethylbenzene	101	60-140	
Bromoform	95	70-130	
1,1,2,2-Tetrachloroethane	85	60-140	
1,3-Dichlorobenzene	94	70-130	

Project Name Kop-Flex
PSS Project No.: 24111802

Analytical Method: EPA 624 .1

Parent Sample Id: ICV, 624-1 Seq Number: 217666
Analyzed Date: 11/15/24 18:12

Parameter	ICV %Rec	Limits	Flag
1,4-Dichlorobenzene	93	65-135	
1,2-Dichlorobenzene	97	65-135	
Surrogate		Limits	Flag
Dibromofluoromethane	100	95-109	
4-Bromofluorobenzene	95	74-124	
Toluene-D8	102	94-108	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 217848
Analyzed Date: 11/23/24 20:04

Parameter	ICV %Rec	Limits	Flag
1,4-Dioxane	116	54-145	
Surrogate		Limits	Flag
Dibromofluoromethane	100	95-109	
4-Bromofluorobenzene	96	74-124	
Toluene-D8	101	94-108	

**PHASE
SEPARATION
SCIENCE**

CHAIN OF CUSTODY FORM

All fields must be completed accurately. Shaded sections for lab use only.

www.phaseonline.com ~ info@phaseonline.com

6630 Baltimore National Pike • Suite 103-A • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047

PSS CLIENT: WSP USA		OFFICE LOCATION: Herndon, VA		PSS Work Order #: 24111802			PAGE 1 OF 1					
BILL TO (if different):		PHONE #: 703-709-6500		Matrix Codes: SW=Surface Water DW=Drinking Water GW=Ground Water WW=Waste Water O=Oil S=Soil SOL=Solid A=Air WI=Wipe								
CONTACT: Eric Johnson		EMAIL: eric.johnson@wsp.com		# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes: 1,6 1,6 3,6 6				Preservative Codes: 1 - HCL 2 - H ₂ SO ₄ 3 - HNO ₃ 4 - NaOH 5 - E624KIT 6 - ICE 7 - Sodium Thiosulfate 8 - Ascorbic Acid 9 - TerraCore Kit		
PROJECT NAME: Kop-Flex		PROJECT #: 31405608.0102				Analysis/Method Required: ③ 1,4D 624.1 VOCs 624.1 Metals 200.8 TSS SM 2540D						
SITE LOCATION: Harman's, MD		P.O. #:										
SAMPLER(S): Greg Makris		DW CERT #:										
PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Analysis/Method Required				Preservative Codes	
1	Effluent VSP-4	11/18/24	1130	WW	8	G	X	X	X	X		
2	TB-111824			TB	4	-	X	X				
<i>[Large handwritten scribble]</i>												
Relinquished By: (1) Client		Date 11/18/24	Time 1312	Received By: <i>[Signature]</i>		Requested TAT (One TAT per COC) <input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input checked="" type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input checked="" type="checkbox"/> Other			Ice Present: yes Pres			
Relinquished By: (2)		Date	Time	Received By:		STATE RESULTS REPORTED TO: <input type="checkbox"/> MD <input type="checkbox"/> DE <input type="checkbox"/> PA <input type="checkbox"/> VA <input type="checkbox"/> WV <input type="checkbox"/> OTHER			Custody Seal: Alas			
Relinquished By: (3)		Date	Time	Received By:		COMPLIANCE? <input type="checkbox"/> DW <input type="checkbox"/> WW			# Coolers: 1 Temp: 8.6-13.1°C			
Relinquished By: (4)		Date	Time	Received By:		EDD FORMAT TYPE			Shipping Carrier: Client Special Instructions: Temp Blank: 9.1°C Standard 10-day TAT			

This chain of custody is a legal document. The client (PSS Client), by signing, or having client's agent sign, this "Chain of Custody Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

Sample Receipt Checklist

Project Name: Kop-Flex
PSS Project No.: 24111802

Client Name WSP USA - Herndon
Disposal Date 12/23/2024

Received By Tyler Enwright
Date Received 11/18/2024 01:12 PM
Delivered By Client
Tracking # Not Applicable
Logged In By Tyler Enwright

Shipping Container(s)

of Coolers 1

Custody Seal(s) Intact? N/A
Seal(s) Signed / Dated? N/A

Ice Present
Temp (°C) 13.1
Temp Blank Present No

Documentation

COC agrees with sample labels? Yes
Chain of Custody Yes

Sampler Name Gregory Makris
MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes
Intact? Yes
Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? Yes

Total # of Samples Received 2
Total # of Containers Received 12

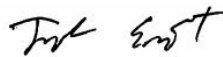
Preservation

Total Metals (pH<2) Yes
Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
Orthophosphorus, filtered within 15 minutes of collection N/A
Cyanides (pH>12) N/A
Sulfide (pH>9) N/A
TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
TOX, TKN, NH3, Total Phos (pH<2) N/A
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) Yes
Do VOA vials have zero headspace? Yes
624 VOC (Rcvd at least one unpreserved VOA vial) Yes
524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, the sample ID, preservative added, documentation of any client notification, and subsequent client instructions are noted below. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C, and <=4°C for EPA 524. Samples that are received by the lab on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that thermal preservation has begun.

Samples Inspected/Checklist Completed By:



Tyler Enwright

Date: 11/18/2024

PM Review and Approval:



Amber Confer

Date: 11/18/2024

Project Name: Kop-Flex
PSS Project No.: 24121604

January 2, 2025

Gregory Makris
WSP USA - Herndon
13530 Dulles Technology Dr, Ste 300
Herndon, VA 20171



Reference: PSS Project No: **24121604**
Project Name: Kop-Flex
Project Location: Hanover, MD
Project ID.: 314015608.010/02.02

Dear Gregory Makris:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24121604**.


All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on January 20, 2025, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,


Dan Prucnal

Laboratory Manager



Sample Summary

Project Name: Kop-Flex
 PSS Project No.: 24121604

The following samples were received under chain of custody by Phase Separation Science (PSS) on 12/16/2024 at 01:15 pm
 Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any
 sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24121604-001	Effluent-VSP4	GROUND WATER	12/16/24 09:10
24121604-002	Trip Blank	WATER	12/16/24 00:00
24121604-003	Trip Blank	WATER	12/16/24 00:00

Project Name: Kop-Flex
PSS Project No.: 24121604

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit (or MDL if shown).
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24121604

Sample ID: Effluent-VSP4 **PSS Sample ID: 24121604-001**
Date/Time Sampled: 12/16/2024 09:10 **Matrix: GROUND WATER**

Total Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Copper	12.9	ug/L	1.00		1	0.98	12/17/24	12/18/24 12:17	1059
Lead	ND	ug/L	1.0		1	0.66	12/17/24	12/17/24 15:48	1059
Nickel	19.7	ug/L	1.00		1	0.95	12/17/24	12/17/24 15:48	1059
Zinc	43.7	ug/L	20.0		1	7.1	12/17/24	12/17/24 15:48	1059

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	3.0	ug/L	1.0		1	1	12/28/24	12/28/24 20:18	1045
<i>Surrogate(s)</i>	<i>Recovery</i>		<i>Limits</i>						
<i>Dibromofluoromethane</i>	100	%	95-109		1		12/28/24	12/28/24 20:18	1045
<i>Toluene-D8</i>	98	%	94-108		1		12/28/24	12/28/24 20:18	1045

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 218455 on Case Narrative.

pH=7

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	12/19/24	12/19/24 18:05	1045
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	12/19/24	12/19/24 18:05	1045
Acrylonitrile	ND	ug/L	5.0		1	1.5	12/19/24	12/19/24 18:05	1045
Chloromethane	ND	ug/L	1.0		1	0.33	12/19/24	12/19/24 18:05	1045
Vinyl Chloride	ND	ug/L	1.0		1	0.34	12/19/24	12/19/24 18:05	1045
Bromomethane	ND	ug/L	1.0		1	0.6	12/19/24	12/19/24 18:05	1045
Chloroethane	ND	ug/L	1.0		1	0.23	12/19/24	12/19/24 18:05	1045
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	12/19/24	12/19/24 18:05	1045
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	12/19/24	12/19/24 18:05	1045
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	12/19/24	12/19/24 18:05	1045
Methylene Chloride	ND	ug/L	1.0		1	0.34	12/19/24	12/19/24 18:05	1045
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	12/19/24	12/19/24 18:05	1045
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	12/19/24	12/19/24 18:05	1045
Chloroform	ND	ug/L	1.0		1	0.21	12/19/24	12/19/24 18:05	1045
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	12/19/24	12/19/24 18:05	1045
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	12/19/24	12/19/24 18:05	1045
Benzene	ND	ug/L	1.0		1	0.19	12/19/24	12/19/24 18:05	1045
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	12/19/24	12/19/24 18:05	1045

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24121604

Sample ID: Effluent-VSP4 **PSS Sample ID: 24121604-001**
Date/Time Sampled: 12/16/2024 09:10 **Matrix: GROUND WATER**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 218455 on Case Narrative.

pH=7

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Trichloroethene	ND	ug/L	1.0		1	0.19	12/19/24	12/19/24 18:05	1045
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	12/19/24	12/19/24 18:05	1045
Bromodichloromethane	ND	ug/L	1.0		1	0.18	12/19/24	12/19/24 18:05	1045
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	12/19/24	12/19/24 18:05	1045
Toluene	ND	ug/L	1.0		1	0.52	12/19/24	12/19/24 18:05	1045
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	12/19/24	12/19/24 18:05	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	12/19/24	12/19/24 18:05	1045
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	12/19/24	12/19/24 18:05	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	12/19/24	12/19/24 18:05	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	12/19/24	12/19/24 18:05	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	12/19/24	12/19/24 18:05	1045
Bromoform	ND	ug/L	1.0		1	0.17	12/19/24	12/19/24 18:05	1045
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	12/19/24	12/19/24 18:05	1045
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	12/19/24	12/19/24 18:05	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	12/19/24	12/19/24 18:05	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	12/19/24	12/19/24 18:05	1045
Surrogate(s)	Recovery		Limits						
<i>Dibromofluoromethane</i>	103	%	95-109		1		12/19/24	12/19/24 18:05	1045
<i>4-Bromofluorobenzene</i>	109	%	74-124		1		12/19/24	12/19/24 18:05	1045
<i>Toluene-D8</i>	97	%	94-108		1		12/19/24	12/19/24 18:05	1045

Total Suspended Solids Analytical Method: SM 2540D -2015

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Total Suspended Solids	ND	mg/L	1.0		1	0.4	12/19/24	12/19/24 13:25	1074

Certificate of Analysis

Project Name: Kop-Flex
PSS Project No.: 24121604

Sample ID: Trip Blank **PSS Sample ID: 24121604-002**
Date/Time Sampled: 12/16/2024 00:00 **Matrix: WATER**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 218455 on Case Narrative.

pH=2

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acrolein	ND	ug/L	5.0		1	1.7	12/19/24	12/19/24 17:45	1045
Acrylonitrile	ND	ug/L	5.0		1	1.5	12/19/24	12/19/24 17:45	1045
Dichlorodifluoromethane	ND	ug/L	1.0		1	0.23	12/19/24	12/19/24 17:45	1045
Chloromethane	ND	ug/L	1.0		1	0.33	12/19/24	12/19/24 17:45	1045
Vinyl Chloride	ND	ug/L	1.0		1	0.34	12/19/24	12/19/24 17:45	1045
Bromomethane	ND	ug/L	1.0		1	0.6	12/19/24	12/19/24 17:45	1045
Chloroethane	ND	ug/L	1.0		1	0.23	12/19/24	12/19/24 17:45	1045
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	12/19/24	12/19/24 17:45	1045
2-Chloroethyl Vinyl Ether	ND	ug/L	1.0		1	1	12/19/24	12/19/24 17:45	1045
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	12/19/24	12/19/24 17:45	1045
Methylene Chloride	ND	ug/L	1.0		1	0.34	12/19/24	12/19/24 17:45	1045
trans-1,2-dichloroethene	ND	ug/L	1.0		1	0.29	12/19/24	12/19/24 17:45	1045
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	12/19/24	12/19/24 17:45	1045
Chloroform	ND	ug/L	1.0		1	0.21	12/19/24	12/19/24 17:45	1045
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	12/19/24	12/19/24 17:45	1045
Carbon Tetrachloride	ND	ug/L	1.0		1	0.22	12/19/24	12/19/24 17:45	1045
Benzene	ND	ug/L	1.0		1	0.19	12/19/24	12/19/24 17:45	1045
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	12/19/24	12/19/24 17:45	1045
Trichloroethene	ND	ug/L	1.0		1	0.19	12/19/24	12/19/24 17:45	1045
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	12/19/24	12/19/24 17:45	1045
Bromodichloromethane	ND	ug/L	1.0		1	0.18	12/19/24	12/19/24 17:45	1045
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	12/19/24	12/19/24 17:45	1045
Toluene	ND	ug/L	1.0		1	0.52	12/19/24	12/19/24 17:45	1045
trans-1,3-dichloropropene	ND	ug/L	1.0		1	0.15	12/19/24	12/19/24 17:45	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	12/19/24	12/19/24 17:45	1045
Tetrachloroethylene	ND	ug/L	1.0		1	0.23	12/19/24	12/19/24 17:45	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	12/19/24	12/19/24 17:45	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	12/19/24	12/19/24 17:45	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	12/19/24	12/19/24 17:45	1045
Bromoform	ND	ug/L	1.0		1	0.17	12/19/24	12/19/24 17:45	1045
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	12/19/24	12/19/24 17:45	1045
1,3-Dichlorobenzene	ND	ug/L	1.0		1	0.23	12/19/24	12/19/24 17:45	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	12/19/24	12/19/24 17:45	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	12/19/24	12/19/24 17:45	1045

Certificate of Analysis

Project Name: Kop-Flex
 PSS Project No.: 24121604

Sample ID: Trip Blank **PSS Sample ID: 24121604-002**
Date/Time Sampled: 12/16/2024 00:00 **Matrix: WATER**

VOC (Full List) Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See Batch 218455 on Case Narrative.

pH=2

<i>Surrogate(s)</i>	<i>Recovery</i>		<i>Limits</i>					
<i>Dibromofluoromethane</i>	100	%	95-109	1	12/19/24	12/19/24 17:45	1045	
<i>4-Bromofluorobenzene</i>	111	%	74-124	1	12/19/24	12/19/24 17:45	1045	
<i>Toluene-D8</i>	104	%	94-108	1	12/19/24	12/19/24 17:45	1045	

Sample ID: Trip Blank **PSS Sample ID: 24121604-003**
Date/Time Sampled: 12/16/2024 00:00 **Matrix: WATER**

1,4- Dioxane Analytical Method: EPA 624 .1 Preparation Method: E624.1

Qualifier(s): See NELAP accreditation section on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,4-Dioxane	ND	ug/L	1.0		1	1	12/28/24	12/28/24 20:39	1045
	<i>Surrogate(s)</i>	<i>Recovery</i>							
	<i>Dibromofluoromethane</i>	100	%	95-109	1	12/28/24	12/28/24 20:39	1045	
	<i>Toluene-D8</i>	98	%	94-108	1	12/28/24	12/28/24 20:39	1045	

Case Narrative

Project Name: Kop-Flex

PSS Project No.: 24121604

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

Analytical:

Volatile Organics Compounds

Batch: 218455

Method exceedance: Quality control sample surrogate exceedances identified, see QC summary.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

EPA 624 .1: 1,4-Dioxane

Lab Chronology

Project Name: Kop-Flex
 PSS Project No.: 24121604

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 200.8	24121604-001	914	Initial	W	103067	218359	12/17/2024 09:45	12/17/2024 15:48
	103067-1-BKS		BKS	W	103067	218359	12/17/2024 09:45	12/17/2024 14:57
	103067-1-BLK		BLK	W	103067	218359	12/17/2024 09:45	12/17/2024 14:52
	24121320-002 S	933	MS	W	103067	218359	12/17/2024 09:45	12/17/2024 15:25
	24121320-002 SD	933	MSD	W	103067	218359	12/17/2024 09:45	12/17/2024 15:31
	103067-1-BKS		Reanalysis	W	103067	218417	12/17/2024 09:45	12/18/2024 11:22
	103067-1-BLK		Reanalysis	W	103067	218417	12/17/2024 09:45	12/18/2024 11:50
	24121604-001	914	Reanalysis	W	103067	218417	12/17/2024 09:45	12/18/2024 12:17
EPA 624 .1	24121604-001	916	Initial	W	103128	218455	12/19/2024 13:49	12/19/2024 18:05
	24121604-002	921	Initial	W	103128	218455	12/19/2024 13:49	12/19/2024 17:45
	103128-1-BKS		BKS	W	103128	218455	12/19/2024 13:49	12/19/2024 16:00
	103128-1-BLK		BLK	W	103128	218455	12/19/2024 13:49	12/19/2024 17:24
	24121714-002 S	975	MS	W	103128	218455	12/19/2024 13:49	12/19/2024 22:36
	24121714-002 SD	975	MSD	W	103128	218455	12/19/2024 13:49	12/19/2024 22:57
EPA 624 .1	24121604-001	920	Initial	W	103198	218614	12/28/2024 17:52	12/28/2024 20:18
	24121604-003	923	Initial	W	103198	218614	12/28/2024 17:52	12/28/2024 20:39
	103198-1-BKS		BKS	W	103198	218614	12/28/2024 17:52	12/28/2024 18:13
	103198-1-BLK		BLK	W	103198	218614	12/28/2024 17:52	12/28/2024 19:57
	103198-1-BSD		BSD	W	103198	218614	12/28/2024 17:52	12/28/2024 18:34
	24121604-001 S	919	MS	W	103198	218614	12/28/2024 17:52	12/28/2024 18:55
	24121604-001 SD	919	MSD	W	103198	218614	12/28/2024 17:52	12/28/2024 19:16
SM 2540D -2015	24121604-001	913	Initial	W	218402	218402	12/19/2024 13:25	12/19/2024 13:25
	218402-1-BKS		BKS	W	218402	218402	12/19/2024 13:25	12/19/2024 13:25
	218402-1-BLK		BLK	W	218402	218402	12/19/2024 13:25	12/19/2024 13:25
	24121711-001 D	737	MD	W	218402	218402	12/19/2024 13:25	12/19/2024 13:25
	24121812-001 D	140	MD	W	218402	218402	12/19/2024 13:25	12/19/2024 13:25

QC Summary

Project Name Kop-Flex
PSS Project No.: 24121604

Analytical Method: SM 2540D -2015

Seq Number: 218402 Matrix: Water
MB Sample ID: 218402-1-BLK LCS Sample ID: 218402-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Total Suspended Solids	<0.4000	56.30	58.00	103	88-109	mg/L	

Analytical Method: EPA 200.8

Seq Number: 218359 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 103067-1-BLK LCS Sample ID: 103067-1-BKS Date Prep: 12/17/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Lead	<0.6600	50.00	53.06	106	85-115	ug/L	
Nickel	<0.9500	50.00	51.91	104	85-115	ug/L	
Zinc	<7.100	100	104.6	105	85-115	ug/L	

Analytical Method: EPA 200.8

Seq Number: 218417 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 103067-1-BLK LCS Sample ID: 103067-1-BKS Date Prep: 12/17/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Copper	<0.9800	50.00	49.75	100	85-115	ug/L	

Analytical Method: EPA 624 .1

Seq Number: 218614 Matrix: Water Prep Method: E624PREP
MB Sample ID: 103198-1-BLK LCS Sample ID: 103198-1-BKS Date Prep: 12/28/24
LCS Sample ID: 103198-1-BKS LCS Sample ID: 103198-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	<26.00	20.00	21.73	109	22.28	111	59-164	2	20	ug/L	
Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units			
Dibromofluoromethane	100		100		100		95-109	%			
Toluene-D8	98		98		99		94-108	%			

Project Name Kop-Flex
PSS Project No.: 24121604

Analytical Method: EPA 624 .1

Seq Number: 218455

Matrix: Water

Prep Method: E624PREP

Date Prep: 12/19/24

MB Sample ID: 103128-1-BLK

LCS Sample ID: 103128-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acrolein	<1.700	50.00	54.17	108	60-140	ug/L	
Acrylonitrile	<1.500	50.00	59.36	119	60-140	ug/L	
Dichlorodifluoromethane	<0.2300	50.00	40.01	80	37-142	ug/L	
Chloromethane	<0.3300	50.00	41.51	83	1-205	ug/L	
Vinyl Chloride	<0.3400	50.00	38.63	77	5-195	ug/L	
Bromomethane	<0.6000	50.00	47.01	94	15-185	ug/L	
Chloroethane	<0.2300	50.00	46.92	94	40-160	ug/L	
Trichlorofluoromethane	<0.1700	50.00	46.08	92	50-150	ug/L	
2-Chloroethyl Vinyl Ether	<1.000	50.00	41.06	82	1-225	ug/L	
1,1-Dichloroethene	<0.1800	50.00	55.63	111	50-150	ug/L	
Methylene Chloride	<0.3400	50.00	48.94	98	60-140	ug/L	
trans-1,2-dichloroethene	<0.2900	50.00	45.99	92	70-130	ug/L	
1,1-Dichloroethane	<0.1900	50.00	47.58	95	70-130	ug/L	
Chloroform	<0.2100	50.00	45.13	90	70-135	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	44.68	89	70-130	ug/L	
Carbon Tetrachloride	<0.2200	50.00	43.45	87	70-130	ug/L	
Benzene	<0.1900	50.00	47.59	95	65-135	ug/L	
1,2-Dichloroethane	<0.1800	50.00	44.42	89	70-130	ug/L	
Trichloroethene	<0.1900	50.00	43.77	88	65-135	ug/L	
1,2-Dichloropropane	<0.1700	50.00	48.27	97	35-165	ug/L	
Bromodichloromethane	<0.1800	50.00	45.37	91	65-135	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	45.58	91	25-175	ug/L	
Toluene	<0.5200	50.00	43.24	86	70-130	ug/L	
trans-1,3-dichloropropene	<0.1500	50.00	42.42	85	50-150	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	43.05	86	70-130	ug/L	
Tetrachloroethylene	<0.2300	50.00	38.42	77	70-130	ug/L	
Dibromochloromethane	<0.1800	50.00	57.29	115	70-135	ug/L	
Chlorobenzene	<0.2300	50.00	44.29	89	65-135	ug/L	
Ethylbenzene	<0.1500	50.00	47.84	96	60-140	ug/L	
Bromoform	<0.1700	50.00	45.09	90	70-130	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	43.40	87	60-140	ug/L	
1,3-Dichlorobenzene	<0.2300	50.00	43.79	88	70-130	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	41.75	84	65-135	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	46.07	92	65-135	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units
Dibromofluoromethane	96		99		95-109	%
4-Bromofluorobenzene	110		99		74-124	%
Toluene-D8	105		96		94-108	%

QC Summary

Project Name Kop-Flex
PSS Project No.: 24121604

Analytical Method: EPA 624 .1

Seq Number: 218614

Parent Sample ID: 24121604-001

Matrix: Ground Water

MS Sample ID: 24121604-001 S

Prep Method: E624PREP

Date Prep: 12/28/24

MSD Sample ID: 24121604-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,4-Dioxane	3.020	20.00	23.68	103	24.14	106	44-172	2	21	ug/L	
Surrogate			MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units			
Dibromofluoromethane			100		100		95-109	%			
Toluene-D8			99		98		94-108	%			

Project Name Kop-Flex
PSS Project No.: 24121604

Analytical Method: EPA 200.8

CCV Sample Id: CCV 2 Seq Number: 218359
Analyzed Date: 12/17/24 13:29

Parameter	CCV %Rec	Limits	Flag
Lead	103	85-115	
Nickel	102	85-115	
Zinc	102	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 3 Seq Number: 218359
Analyzed Date: 12/17/24 15:14

Parameter	CCV %Rec	Limits	Flag
Lead	103	85-115	
Nickel	103	85-115	
Zinc	105	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 4 Seq Number: 218359
Analyzed Date: 12/17/24 17:37

Parameter	CCV %Rec	Limits	Flag
Lead	103	85-115	
Nickel	97	85-115	
Zinc	100	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 1 Seq Number: 218417
Analyzed Date: 12/18/24 11:39

Parameter	CCV %Rec	Limits	Flag
Copper	97	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 2 Seq Number: 218417
Analyzed Date: 12/18/24 12:51

Parameter	CCV %Rec	Limits	Flag
Copper	90	85-115	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 218359
Analyzed Date: 12/17/24 11:29

Parameter	ICV %Rec	Limits	Flag
Lead	104	90-110	
Nickel	101	90-110	
Zinc	101	90-110	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 218417
Analyzed Date: 12/18/24 10:21

Parameter	ICV %Rec	Limits	Flag
Copper	103	90-110	

Analytical Method: EPA 624 .1

CCV Sample Id: CCV, 624-1 Seq Number: 218455
Analyzed Date: 12/19/24 14:10

Parameter	CCV %Rec	Limits	Flag
Acrolein	131	60-140	
Acrylonitrile	135	60-140	
Dichlorodifluoromethane	101	59-110	
Chloromethane	92	1-205	
Vinyl Chloride	96	43-133	
Bromomethane	110	15-185	
Chloroethane	123	40-160	
Trichlorofluoromethane	130	70-130	
2-Chloroethyl Vinyl Ether	97	1-225	
1,1-Dichloroethene	137	50-150	
Methylene Chloride	110	76-125	

Project Name Kop-Flex
PSS Project No.: 24121604

Analytical Method: EPA 624 .1

CCV Sample Id: CCV, 624-1 Seq Number: 218455
Analyzed Date: 12/19/24 14:10

Parameter	CCV %Rec	Limits	Flag
trans-1,2-dichloroethene	101	70-124	
1,1-Dichloroethane	108	70-130	
Chloroform	105	70-135	
1,1,1-Trichloroethane	109	70-130	
Carbon Tetrachloride	108	70-130	
Benzene	105	65-135	
1,2-Dichloroethane	110	70-130	
Trichloroethene	100	69-126	
1,2-Dichloropropane	107	35-165	
Bromodichloromethane	110	65-135	
cis-1,3-Dichloropropene	113	70-135	
Toluene	109	48-135	
trans-1,3-dichloropropene	108	39-176	
1,1,2-Trichloroethane	107	70-130	
Tetrachloroethylene	104	69-126	
Dibromochloromethane	104	51-128	
Chlorobenzene	97	65-135	
Ethylbenzene	106	71-124	
Bromoform	103	70-130	
1,1,2,2-Tetrachloroethane	98	60-140	
1,3-Dichlorobenzene	96	70-130	
1,4-Dichlorobenzene	90	65-135	
1,2-Dichlorobenzene	98	65-135	

Surrogate	Limits	Flag
Dibromofluoromethane	101 95-109	
4-Bromofluorobenzene	101 74-124	
Toluene-D8	109 94-108	X

Analytical Method: EPA 624 .1

CCV Sample Id: CCV, 1,4-DIOX Seq Number: 218614
Analyzed Date: 12/28/24 17:52

Parameter	CCV %Rec	Limits	Flag
1,4-Dioxane	103	54-145	
Surrogate	Limits	Flag	
Dibromofluoromethane	101 95-109		
Toluene-D8	97 94-108		

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 218320
Analyzed Date: 12/14/24 13:57

Parameter	ICV %Rec	Limits	Flag
Acrolein	80	60-140	
Acrylonitrile	98	60-140	
Dichlorodifluoromethane	93	51-128	
Chloromethane	97	1-205	
Vinyl Chloride	97	5-195	
Bromomethane	91	15-185	
Chloroethane	90	40-160	
Trichlorofluoromethane	84	50-150	
2-Chloroethyl Vinyl Ether	91	1-225	
1,1-Dichloroethene	89	50-150	
Methylene Chloride	91	60-140	
trans-1,2-dichloroethene	92	70-130	
1,1-Dichloroethane	93	70-130	
Chloroform	93	70-135	
1,1,1-Trichloroethane	97	70-130	

Project Name Kop-Flex
PSS Project No.: 24121604

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 218320
Analyzed Date: 12/14/24 13:57

Parameter	ICV %Rec	Limits	Flag
Carbon Tetrachloride	95	70-130	
Benzene	93	65-135	
1,2-Dichloroethane	93	70-130	
Trichloroethene	90	65-135	
1,2-Dichloropropane	93	35-165	
Bromodichloromethane	97	65-135	
cis-1,3-Dichloropropene	100	25-175	
Toluene	96	70-130	
trans-1,3-dichloropropene	94	50-150	
1,1,2-Trichloroethane	94	70-130	
Tetrachloroethylene	95	70-130	
Dibromochloromethane	98	70-135	
Chlorobenzene	94	65-135	
Ethylbenzene	99	60-140	
Bromoform	100	70-130	
1,1,2,2-Tetrachloroethane	93	60-140	
1,3-Dichlorobenzene	96	70-130	
1,4-Dichlorobenzene	90	65-135	
1,2-Dichlorobenzene	97	65-135	
Surrogate		Limits	Flag
Dibromofluoromethane	100	95-109	
4-Bromofluorobenzene	99	74-124	
Toluene-D8	103	94-108	

Analytical Method: EPA 624 .1

Parent Sample Id: ICV-01 Seq Number: 218612
Analyzed Date: 12/28/24 17:52

Parameter	ICV %Rec	Limits	Flag
1,4-Dioxane	2	54-145	X
Surrogate		Limits	Flag
Dibromofluoromethane	101	95-109	
Toluene-D8	97	94-108	

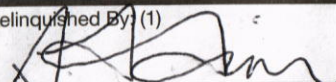

PHASE SEPARATION SCIENCE

CHAIN OF CUSTODY FORM

All fields must be completed accurately. Shaded sections for lab use only.

www.phaseonline.com ~ info@phaseonline.com

6630 Baltimore National Pike • Suite 103-A • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047

PSS CLIENT: WSP USA		OFFICE LOCATION: Hardon, VA		PSS Work Order #: 24121604				PAGE 1 OF 1											
BILL TO (if different):		PHONE #: (703) 709-6550		Matrix Codes: SW=Surface Water DW=Drinking Water GW=Ground Water WW=Waste Water O=Oil S=Soil SOL=Solid A=Air WI=Wipe															
CONTACT: Greg Matris		EMAIL:		# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes								Preservative Codes					
PROJECT NAME: Kopflex		PROJECT #: 314015608.010				Analysis/Method Required													
SITE LOCATION: Hanover, MP		P.O. #:				③													
SAMPLER(S): MBS, SRH		DW CERT #:				<div style="display: flex; justify-content: space-between;"> 1 - HCL 2 - H₂SO₄ </div> <div style="display: flex; justify-content: space-between;"> 3 - HNO₃ 4 - NaOH </div> <div style="display: flex; justify-content: space-between;"> 5 - E624KIT 6 - ICE </div> <div style="display: flex; justify-content: space-between;"> 7 - Sodium Thiosulfate 8 - Ascorbic Acid </div> <div style="display: flex; justify-content: space-between;"> 9 - TerraCore Kit </div>													
PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes								Preservative Codes				
1	Effluent-vsp4	12/16/24	0910	GW	2	G	X	X	X	1									
2	Trip blank	12/16/24			2	G	X												
3	Trip blank	12/16/24			2	G		X											
Relinquished By: (1) 		Date	Time	Received By: 	Requested TAT (One TAT per COC)				Ice Present: Yes										
Relinquished By: (2)		Date	Time	Received By:	<input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input type="checkbox"/> Other				Custody Seal: ALS										
Relinquished By: (3)		Date	Time	Received By:	STATE RESULTS REPORTED TO:				# Coolers: 1 Temp: 1.1-4.1°C										
Relinquished By: (4)		Date	Time	Received By:	COMPLIANCE? <input type="checkbox"/> DW <input type="checkbox"/> WW				Shipping Carrier: Client										
					EDD FORMAT TYPE				Special Instructions: Temp Blank: 1.5°C Standard TAT										

This chain of custody is a legal document. The client (PSS Client), by signing, or having client's agent sign, this "Chain of Custody Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

Sample Receipt Checklist

Project Name: Kop-Flex
PSS Project No.: 24121604

Client Name WSP USA - Herndon
Disposal Date 01/20/2025

Received By Tyler Enwright
Date Received 12/16/2024 01:15 PM
Delivered By Client
Tracking # Not Applicable
Logged In By Tyler Enwright

Shipping Container(s)

of Coolers 1

Custody Seal(s) Intact? N/A
Seal(s) Signed / Dated? N/A

Ice Present
Temp (°C) 4.1
Temp Blank Present Yes

Documentation

COC agrees with sample labels? Yes
Chain of Custody Yes

Sampler Name MBS, SRH
MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes
Intact? Yes
Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? Yes

Total # of Samples Received 3
Total # of Containers Received 12

Preservation

Total Metals (pH<2) Yes
Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
Orthophosphorus, filtered within 15 minutes of collection N/A
Cyanides (pH>12) N/A
Sulfide (pH>9) N/A
TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
TOX, TKN, NH3, Total Phos (pH<2) N/A
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) Yes
Do VOA vials have zero headspace? Yes
624 VOC (Rcvd at least one unpreserved VOA vial) Yes
524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, the sample ID, preservative added, documentation of any client notification, and subsequent client instructions are noted below. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C, and <=4°C for EPA 524. Samples that are received by the lab on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that thermal preservation has begun.

Samples Inspected/Checklist Completed By:

Tyler Enwright

Date: 12/16/2024

Tyler Enwright

PM Review and Approval:

Lynn Jackson

Date: 12/16/2024

Lynn Jackson

APPENDIX

C LABORATORY REPORTS FOR GROUNDWATER MONITORING



Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | www.alsglobal.com
 Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 | Fax: 717-944-1430 |

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
 State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343, NJ PA101

Analytical Results Report For

WSP USA Inc.

Project [KOP-Flex Onsite 31405608.010](#)
 Workorder [3360617](#)
 Report ID [325701 on 5/31/2024](#)

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on May 20, 2024.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.
 ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):
 Elliott Martynkiewicz - WSP USA Inc.
 Eric Johnson - WSP USA INC

Susan Scherer

Susan Scherer
 Project Coordinator

(ALS Digital Signature)

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.



Sample Summary

<u>Lab ID</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>	<u>Collector</u>	<u>Collection Company</u>
3360617001	MW-22D	Ground Water	05/19/2024 14:55	05/20/2024 19:20	CBC	Collected By Client
3360617002	MW-04R	Ground Water	05/19/2024 15:10	05/20/2024 19:20	CBC	Collected By Client
3360617003	MW-44	Ground Water	05/19/2024 13:55	05/20/2024 19:20	CBC	Collected By Client
3360617004	MW-21D	Ground Water	05/19/2024 14:05	05/20/2024 19:20	CBC	Collected By Client
3360617005	MW-01D	Ground Water	05/19/2024 14:35	05/20/2024 19:20	CBC	Collected By Client
3360617007	MW-20	Ground Water	05/19/2024 15:15	05/20/2024 19:20	CBC	Collected By Client
3360617008	MW-16	Ground Water	05/19/2024 16:05	05/20/2024 19:20	CBC	Collected By Client
3360617009	MW-16D	Ground Water	05/19/2024 16:20	05/20/2024 19:20	CBC	Collected By Client
3360617010	Trip Blank-A	Ground Water	05/19/2024 00:00	05/20/2024 19:20	CBC	Collected By Client
3360617011	MW-43	Ground Water	05/19/2024 10:30	05/20/2024 19:20	CBC	Collected By Client
3360617012	MW-42	Ground Water	05/19/2024 11:05	05/20/2024 19:20	CBC	Collected By Client
3360617013	MW-38R	Ground Water	05/19/2024 11:15	05/20/2024 19:20	CBC	Collected By Client
3360617014	MW-09	Ground Water	05/19/2024 15:35	05/20/2024 19:20	CBC	Collected By Client
3360617015	MW-23D	Ground Water	05/19/2024 15:55	05/20/2024 19:20	CBC	Collected By Client
3360617016	MW-100	Ground Water	05/19/2024 12:15	05/20/2024 19:20	CBC	Collected By Client
3360617017	Trip Blank-B	Ground Water	05/19/2024 00:00	05/20/2024 19:20	CBC	Collected By Client



Reference

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136, including but not limited to the following EPA Method reference revisions:
EPA 300.1 Rev. 1.0-1997
EPA 300.0 Rev. 2.1-1993
EPA 353.2 Rev. 2.0-1993
EPA 410.4 Rev. 1.0-1993
EPA 420.4 Rev. 1.0-1993
EPA 365.1 Rev. 2.0-1993
EPA 200.7 Rev. 4.4-1994
EPA 200.8 Rev. 5.4-1994
EPA 245.1 Rev. 3.0-1994
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.



Project Notations

Sample Notations

Lab ID	Sample ID		
3360617004	MW-21D	S1	The sample analyzed for the volatiles analysis contained headspace, which was introduced during the primary run. The method requires that the samples not have headspace in order to prevent the loss of VOC's.

Result Notations

Notation Ref.	
1	This compound was recovered above the 20 percent 8260D criteria in the continuing calibration verification associated with this sample. The % difference was reported at 20.58%. Acceptable limits are +/-20%.
2	The surrogate 2-Methylnapthalene-d10 for method SW846 8270E SIM was outside of control limits. The % Recovery was reported as 562 and the control limits were 29 to 112. This result was reported at a dilution of 100.
3	The surrogate 2-Methylnapthalene-d10 for method SW846 8270E SIM was outside of control limits. The % Recovery was reported as 1760 and the control limits were 29 to 112. This result was reported at a dilution of 100.
4	The surrogate 2-Methylnapthalene-d10 for method SW846 8270E SIM was outside of control limits. The % Recovery was reported as 0 and the control limits were 29 to 112. This result was reported at a dilution of 10.
5	Chloromethane was recovered below the 20 percent 8260D criteria in the continuing calibration verification associated with this sample. The % drift was reported at -23.94%. Acceptable limits are +/-20%.



Detected Results Summary

Client Sample ID MW-22D Collected 05/19/2024 14:55
Lab Sample ID 3360617001 Lab Receipt 05/20/2024 19:20

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	1.1	ug/L	1.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1-Dichloroethene	5.5	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID	MW-04R	Collected	05/19/2024 15:10
Lab Sample ID	3360617002	Lab Receipt	05/20/2024 19:20

Compound	Result	Units	RDL	Method	Flag
SEMIVOLATILE SIM					
1,4-Dioxane	26.7	ug/L	5.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1-Dichloroethane	36.0	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethene	76.0	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID MW-44 Collected 05/19/2024 13:55
Lab Sample ID 3360617003 Lab Receipt 05/20/2024 19:20

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	1.9	ug/L	1.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	5.8	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethane	3.3	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethene	5.0	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID MW-21D Collected 05/19/2024 14:05
Lab Sample ID 3360617004 Lab Receipt 05/20/2024 19:20

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	4.3	ug/L	1.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1-Dichloroethene	6.3	ug/L	1.0	SW846 8260D	#
Methyl t-Butyl Ether	1.3	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID MW-01D Collected 05/19/2024 14:35
Lab Sample ID 3360617005 Lab Receipt 05/20/2024 19:20

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	3.1	ug/L	1.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1-Dichloroethane	2.4	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethene	17.1	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID MW-20 Collected 05/19/2024 15:15
Lab Sample ID 3360617007 Lab Receipt 05/20/2024 19:20

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	396	ug/L	100	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1-Dichloroethane	386	ug/L	5.0	SW846 8260D	#
1,1-Dichloroethene	560	ug/L	5.0	SW846 8260D	#
1,2-Dichloroethane	12.6	ug/L	5.0	SW846 8260D	#
Trichloroethene	5.1	ug/L	5.0	SW846 8260D	#



Detected Results Summary

Client Sample ID MW-16 Collected 05/19/2024 16:05
Lab Sample ID 3360617008 Lab Receipt 05/20/2024 19:20

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	91.4	ug/L	19.2	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	905	ug/L	20.0	SW846 8260D	#
1,1-Dichloroethane	1160	ug/L	20.0	SW846 8260D	#
1,1-Dichloroethene	1640	ug/L	20.0	SW846 8260D	#
Chloroethane	34.5	ug/L	20.0	SW846 8260D	#



Detected Results Summary

Client Sample ID MW-16D Collected 05/19/2024 16:20
Lab Sample ID 3360617009 Lab Receipt 05/20/2024 19:20

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	18.7	ug/L	5.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	4.5	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethane	20.5	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethene	96.6	ug/L	1.0	SW846 8260D	#
1,2-Dichloroethane	1.1	ug/L	1.0	SW846 8260D	#
Methyl t-Butyl Ether	1.1	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID MW-43 Collected 05/19/2024 10:30
Lab Sample ID 3360617011 Lab Receipt 05/20/2024 19:20

Compound	Result	Units	RDL	Method	Flag
SEMIVOLATILE SIM					
1,4-Dioxane	6.3	ug/L	1.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1-Dichloroethane	1.5	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethene	17.3	ug/L	1.0	SW846 8260D	#
Methyl t-Butyl Ether	2.0	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID	MW-42	Collected	05/19/2024 11:05
Lab Sample ID	3360617012	Lab Receipt	05/20/2024 19:20

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	3.7	ug/L	1.0	SW846 8270E SIM	#



Detected Results Summary

Client Sample ID	MW-38R	Collected	05/19/2024 11:15
Lab Sample ID	3360617013	Lab Receipt	05/20/2024 19:20

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	10	ug/L	1.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1-Dichloroethane	8.1	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID MW-09 Collected 05/19/2024 15:35
Lab Sample ID 3360617014 Lab Receipt 05/20/2024 19:20

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	3.8	ug/L	1.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1-Dichloroethane	2.9	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethene	60.7	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID	MW-23D	Collected	05/19/2024 15:55
Lab Sample ID	3360617015	Lab Receipt	05/20/2024 19:20

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	24.2	ug/L	5.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	6.9	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethane	32.7	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethene	134	ug/L	1.0	SW846 8260D	#
1,2-Dichloroethane	1.4	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID	MW-100	Collected	05/19/2024 12:15
Lab Sample ID	3360617016	Lab Receipt	05/20/2024 19:20

Compound	Result	Units	RDL	Method	Flag
SEMIVOLATILE SIM					
1,4-Dioxane	19.1	ug/L	4.2	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	4.4	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethane	20.7	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethene	96.6	ug/L	1.0	SW846 8260D	#
1,2-Dichloroethane	1.1	ug/L	1.0	SW846 8260D	#
Methyl t-Butyl Ether	1.1	ug/L	1.0	SW846 8260D	#



Results

Client Sample ID	MW-22D	Collected	05/19/2024 14:55
Lab Sample ID	3360617001	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	1.1		ug/L	1.0	SW846 8270E SIM	1	05/23/2024 06:13	S7M	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	73.2%	29 - 112	05/23/2024 06:13	
Fluoranthene-d10	93951-69-0	86.2%	45 - 130	05/23/2024 06:13	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,1-Dichloroethene	5.5		ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
2-Hexanone	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B



Results

Client Sample ID	MW-22D	Collected	05/19/2024 14:55
Lab Sample ID	3360617001	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 02:40	PDK	B
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 02:40	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	110%	62 - 133	05/29/2024 02:40	
4-Bromofluorobenzene	460-00-4	93.1%	79 - 114	05/29/2024 02:40	
Dibromofluoromethane	1868-53-7	98.4%	78 - 116	05/29/2024 02:40	
Toluene-d8	2037-26-5	94.8%	76 - 127	05/29/2024 02:40	



Results

Client Sample ID	MW-04R	Collected	05/19/2024 15:10
Lab Sample ID	3360617002	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	26.7		ug/L	5.0	SW846 8270E SIM	5	05/29/2024 03:22	M10	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	85.2%	29 - 112	05/23/2024 06:43	
2-Methylnaphthalene-d10	7297-45-2	82.7%	29 - 112	05/29/2024 03:22	
Fluoranthene-d10	93951-69-0	98.9%	45 - 130	05/23/2024 06:43	
Fluoranthene-d10	93951-69-0	94%	45 - 130	05/29/2024 03:22	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,1-Dichloroethane	36.0		ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,1-Dichloroethene	76.0		ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
2-Hexanone	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B



Results

Client Sample ID	MW-04R	Collected	05/19/2024 15:10
Lab Sample ID	3360617002	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 03:01	PDK	B
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:01	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	107%	62 - 133	05/29/2024 03:01	
4-Bromofluorobenzene	460-00-4	102%	79 - 114	05/29/2024 03:01	
Dibromofluoromethane	1868-53-7	95%	78 - 116	05/29/2024 03:01	
Toluene-d8	2037-26-5	94.5%	76 - 127	05/29/2024 03:01	



Results

Client Sample ID	MW-44	Collected	05/19/2024 13:55
Lab Sample ID	3360617003	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	1.9		ug/L	1.0	SW846 8270E SIM	1	05/29/2024 03:49	M1O	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	79.8%	29 - 112	05/29/2024 03:49	
Fluoranthene-d10	93951-69-0	97.2%	45 - 130	05/29/2024 03:49	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,1,1-Trichloroethane	5.8		ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,1-Dichloroethane	3.3		ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,1-Dichloroethene	5.0		ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
2-Hexanone	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B



Results

Client Sample ID	MW-44	Collected	05/19/2024 13:55
Lab Sample ID	3360617003	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 03:21	PDK	B
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:21	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	111%	62 - 133	05/29/2024 03:21	
4-Bromofluorobenzene	460-00-4	95%	79 - 114	05/29/2024 03:21	
Dibromofluoromethane	1868-53-7	98.3%	78 - 116	05/29/2024 03:21	
Toluene-d8	2037-26-5	95.1%	76 - 127	05/29/2024 03:21	



Results

Client Sample ID	MW-21D	Collected	05/19/2024 14:05
Lab Sample ID	3360617004	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	4.3	S1	ug/L	1.0	SW846 8270E SIM	1	05/23/2024 07:43	S7M	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	78.3%	29 - 112	05/23/2024 07:43	
Fluoranthene-d10	93951-69-0	94.6%	45 - 130	05/23/2024 07:43	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,1,1-Trichloroethane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,1,2,2-Tetrachloroethane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,1,2-Trichloroethane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,1-Dichloroethane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,1-Dichloroethene	6.3	S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,1-Dichloropropene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,2,3-Trichlorobenzene	2.0 U	U,S1	ug/L	2.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,2,3-Trichloropropane	2.0 U	U,S1	ug/L	2.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,2,4-Trichlorobenzene	2.0 U	U,S1	ug/L	2.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,2-Dibromo-3-chloropropane	7.0 U	U,S1	ug/L	7.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,2-Dibromoethane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,2-Dichlorobenzene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,2-Dichloroethane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,2-Dichloropropane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,3-Dichlorobenzene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,3-Dichloropropane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
1,4-Dichlorobenzene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
2,2-Dichloropropane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
2-Butanone	10.0 U	U,S1	ug/L	10.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
2-Hexanone	5.0 U	U,S1	ug/L	5.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U,S1	ug/L	5.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Acetone	10.0 U	U,S1	ug/L	10.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Benzene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Bromobenzene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Bromochloromethane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Bromodichloromethane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Bromoform	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Bromomethane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Carbon Tetrachloride	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Chlorobenzene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Chlorodibromomethane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Chloroethane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Chloroform	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Chloromethane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A



Results

Client Sample ID	MW-21D	Collected	05/19/2024 14:05
Lab Sample ID	3360617004	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
cis-1,3-Dichloropropene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Dibromomethane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Dichlorodifluoromethane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Diisopropyl ether	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Ethylbenzene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Hexachlorobutadiene	5.0 U	U,S1	ug/L	5.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Methyl t-Butyl Ether	1.3	S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Methylene Chloride	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
mp-Xylene	2.0 U	U,S1	ug/L	2.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Naphthalene	2.0 U	U,S1	ug/L	2.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
o-Chlorotoluene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
o-Xylene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
p-Chlorotoluene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
p-Isopropyltoluene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Styrene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Tetrachloroethene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Toluene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Total Xylenes	3.0 U	U,S1	ug/L	3.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
trans-1,2-Dichloroethene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
trans-1,3-Dichloropropene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Trichloroethene	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Trichlorofluoromethane	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Vinyl Acetate	5.0 U	U,S1	ug/L	5.0	SW846 8260D	1	05/29/2024 19:13	ADB	A
Vinyl Chloride	1.0 U	U,S1	ug/L	1.0	SW846 8260D	1	05/29/2024 19:13	ADB	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	109%	62 - 133	05/29/2024 19:13	
4-Bromofluorobenzene	460-00-4	101%	79 - 114	05/29/2024 19:13	
Dibromofluoromethane	1868-53-7	95.7%	78 - 116	05/29/2024 19:13	
Toluene-d8	2037-26-5	92.6%	76 - 127	05/29/2024 19:13	



Results

Client Sample ID	MW-01D	Collected	05/19/2024 14:35
Lab Sample ID	3360617005	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	3.1		ug/L	1.0	SW846 8270E SIM	1	05/23/2024 08:41	S7M	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	77.4%	29 - 112	05/23/2024 08:41	
Fluoranthene-d10	93951-69-0	86.3%	45 - 130	05/23/2024 08:41	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,1-Dichloroethane	2.4		ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,1-Dichloroethene	17.1		ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
2-Hexanone	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B



Results

Client Sample ID	MW-01D	Collected	05/19/2024 14:35
Lab Sample ID	3360617005	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 03:42	PDK	B
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 03:42	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	109%	62 - 133	05/29/2024 03:42	
4-Bromofluorobenzene	460-00-4	104%	79 - 114	05/29/2024 03:42	
Dibromofluoromethane	1868-53-7	96%	78 - 116	05/29/2024 03:42	
Toluene-d8	2037-26-5	96.8%	76 - 127	05/29/2024 03:42	



Results

Client Sample ID	MW-20	Collected	05/19/2024 15:15
Lab Sample ID	3360617007	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	396		ug/L	100	SW846 8270E SIM	100	05/29/2024 04:16	M10	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	81%	29 - 112	05/23/2024 09:39	2
2-Methylnaphthalene-d10	7297-45-2	1760*%	29 - 112	05/29/2024 04:16	3
Fluoranthene-d10	93951-69-0	97.8%	45 - 130	05/23/2024 09:39	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,1,1-Trichloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,1,2,2-Tetrachloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,1,2-Trichloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,1-Dichloroethane	386		ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,1-Dichloroethene	560		ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,1-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,2,3-Trichlorobenzene	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,2,3-Trichloropropane	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,2,4-Trichlorobenzene	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,2-Dibromo-3-chloropropane	35.0 U	U	ug/L	35.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,2-Dibromoethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,2-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,2-Dichloroethane	12.6		ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,2-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,3-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,3-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
1,4-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
2,2-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
2-Butanone	50.0 U	U	ug/L	50.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
2-Hexanone	25.0 U	U,1	ug/L	25.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
4-Methyl-2-Pentanone(MIBK)	25.0 U	U	ug/L	25.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Acetone	50.0 U	U	ug/L	50.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Benzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Bromobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Bromochloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Bromodichloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Bromoform	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Bromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Carbon Tetrachloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Chlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Chlorodibromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Chloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Chloroform	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B



Results

Client Sample ID	MW-20	Collected	05/19/2024 15:15
Lab Sample ID	3360617007	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
cis-1,2-Dichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
cis-1,3-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Dibromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Dichlorodifluoromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Diisopropyl ether	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Ethylbenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Hexachlorobutadiene	25.0 U	U	ug/L	25.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Methyl t-Butyl Ether	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Methylene Chloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
mp-Xylene	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Naphthalene	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
o-Chlorotoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
o-Xylene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
p-Chlorotoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
p-Isopropyltoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Styrene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Tetrachloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Toluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Total Xylenes	15.0 U	U	ug/L	15.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
trans-1,2-Dichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
trans-1,3-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Trichloroethene	5.1		ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Trichlorofluoromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Vinyl Acetate	25.0 U	U	ug/L	25.0	SW846 8260D	5	05/29/2024 06:45	PDK	B
Vinyl Chloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/29/2024 06:45	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	108%	62 - 133	05/29/2024 06:45	
4-Bromofluorobenzene	460-00-4	102%	79 - 114	05/29/2024 06:45	
Dibromofluoromethane	1868-53-7	96.8%	78 - 116	05/29/2024 06:45	
Toluene-d8	2037-26-5	93.9%	76 - 127	05/29/2024 06:45	



Results

Client Sample ID	MW-16	Collected	05/19/2024 16:05
Lab Sample ID	3360617008	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	91.4		ug/L	19.2	SW846 8270E SIM	10	05/29/2024 05:11	M1O	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	91.3%	29 - 112	05/23/2024 10:38	
2-Methylnaphthalene-d10	7297-45-2	0*%	29 - 112	05/29/2024 05:11	4
Fluoranthene-d10	93951-69-0	99.3%	45 - 130	05/23/2024 10:38	
Fluoranthene-d10	93951-69-0	96.4%	45 - 130	05/29/2024 05:11	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,1,1-Trichloroethane	905		ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,1,2,2-Tetrachloroethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,1,2-Trichloroethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,1-Dichloroethane	1160		ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,1-Dichloroethene	1640		ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,1-Dichloropropene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,2,3-Trichlorobenzene	40.0 U	U	ug/L	40.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,2,3-Trichloropropane	40.0 U	U	ug/L	40.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,2,4-Trichlorobenzene	40.0 U	U	ug/L	40.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,2-Dibromo-3-chloropropane	140 U	U	ug/L	140	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,2-Dibromoethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,2-Dichlorobenzene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,2-Dichloroethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,2-Dichloropropane	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,3-Dichlorobenzene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,3-Dichloropropane	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
1,4-Dichlorobenzene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
2,2-Dichloropropane	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
2-Butanone	200 U	U	ug/L	200	SW846 8260D	20	05/29/2024 07:06	PDK	B
2-Hexanone	100 U	U,1	ug/L	100	SW846 8260D	20	05/29/2024 07:06	PDK	B
4-Methyl-2-Pentanone(MIBK)	100 U	U	ug/L	100	SW846 8260D	20	05/29/2024 07:06	PDK	B
Acetone	200 U	U	ug/L	200	SW846 8260D	20	05/29/2024 07:06	PDK	B
Benzene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Bromobenzene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Bromochloromethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Bromodichloromethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Bromoform	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Bromomethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Carbon Tetrachloride	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Chlorobenzene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Chlorodibromomethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Chloroethane	34.5		ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B



Results

Client Sample ID	MW-16	Collected	05/19/2024 16:05
Lab Sample ID	3360617008	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloroform	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Chloromethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
cis-1,2-Dichloroethene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
cis-1,3-Dichloropropene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Dibromomethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Dichlorodifluoromethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Diisopropyl ether	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Ethylbenzene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Hexachlorobutadiene	100 U	U	ug/L	100	SW846 8260D	20	05/29/2024 07:06	PDK	B
Methyl t-Butyl Ether	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Methylene Chloride	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
mp-Xylene	40.0 U	U	ug/L	40.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Naphthalene	40.0 U	U	ug/L	40.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
o-Chlorotoluene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
o-Xylene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
p-Chlorotoluene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
p-Isopropyltoluene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Styrene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Tetrachloroethene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Toluene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Total Xylenes	60.0 U	U	ug/L	60.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
trans-1,2-Dichloroethene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
trans-1,3-Dichloropropene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Trichloroethene	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Trichlorofluoromethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B
Vinyl Acetate	100 U	U	ug/L	100	SW846 8260D	20	05/29/2024 07:06	PDK	B
Vinyl Chloride	20.0 U	U	ug/L	20.0	SW846 8260D	20	05/29/2024 07:06	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	111%	62 - 133	05/29/2024 07:06	
4-Bromofluorobenzene	460-00-4	95.5%	79 - 114	05/29/2024 07:06	
Dibromofluoromethane	1868-53-7	98.6%	78 - 116	05/29/2024 07:06	
Toluene-d8	2037-26-5	94.6%	76 - 127	05/29/2024 07:06	



Results

Client Sample ID	MW-16D	Collected	05/19/2024 16:20
Lab Sample ID	3360617009	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	18.7		ug/L	5.0	SW846 8270E SIM	5	05/29/2024 05:38	M1O	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	82.9%	29 – 112	05/23/2024 11:07	
2-Methylnaphthalene-d10	7297-45-2	79.5%	29 – 112	05/29/2024 05:38	
Fluoranthene-d10	93951-69-0	95.9%	45 – 130	05/23/2024 11:07	
Fluoranthene-d10	93951-69-0	92.8%	45 – 130	05/29/2024 05:38	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,1,1-Trichloroethane	4.5		ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,1-Dichloroethane	20.5		ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,1-Dichloroethene	96.6		ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,2-Dichloroethane	1.1		ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
2-Hexanone	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B



Results

Client Sample ID	MW-16D	Collected	05/19/2024 16:20
Lab Sample ID	3360617009	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Methyl t-Butyl Ether	1.1		ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 04:02	PDK	B
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:02	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	107%	62 - 133	05/29/2024 04:02	
4-Bromofluorobenzene	460-00-4	99.5%	79 - 114	05/29/2024 04:02	
Dibromofluoromethane	1868-53-7	95.2%	78 - 116	05/29/2024 04:02	
Toluene-d8	2037-26-5	93.5%	76 - 127	05/29/2024 04:02	



Results

Client Sample ID	Trip Blank-A	Collected	05/19/2024 00:00
Lab Sample ID	3360617010	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Chloromethane	1.0 U	U,5	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A



Results

Client Sample ID	Trip Blank-A	Collected	05/19/2024 00:00
Lab Sample ID	3360617010	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/24/2024 12:30	ILY	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/24/2024 12:30	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	115%	62 – 133	05/24/2024 12:30	
4-Bromofluorobenzene	460-00-4	95.8%	79 – 114	05/24/2024 12:30	
Dibromofluoromethane	1868-53-7	107%	78 – 116	05/24/2024 12:30	
Toluene-d8	2037-26-5	98.3%	76 – 127	05/24/2024 12:30	



Results

Client Sample ID	MW-43	Collected	05/19/2024 10:30
Lab Sample ID	3360617011	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	6.3		ug/L	1.0	SW846 8270E SIM	1	05/23/2024 11:37	S7M	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	78.4%	29 – 112	05/23/2024 11:37	
Fluoranthene-d10	93951-69-0	88.2%	45 – 130	05/23/2024 11:37	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,1-Dichloroethane	1.5		ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,1-Dichloroethene	17.3		ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
2-Hexanone	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B



Results

Client Sample ID	MW-43	Collected	05/19/2024 10:30
Lab Sample ID	3360617011	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Methyl t-Butyl Ether	2.0		ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 04:22	PDK	B
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:22	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	109%	62 - 133	05/29/2024 04:22	
4-Bromofluorobenzene	460-00-4	92.8%	79 - 114	05/29/2024 04:22	
Dibromofluoromethane	1868-53-7	95.7%	78 - 116	05/29/2024 04:22	
Toluene-d8	2037-26-5	92.5%	76 - 127	05/29/2024 04:22	



Results

Client Sample ID	MW-42	Collected	05/19/2024 11:05
Lab Sample ID	3360617012	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	3.7		ug/L	1.0	SW846 8270E SIM	1	05/23/2024 12:07	S7M	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	66.1%	29 - 112	05/23/2024 12:07	
Fluoranthene-d10	93951-69-0	79.8%	45 - 130	05/23/2024 12:07	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
2-Hexanone	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B



Results

Client Sample ID	MW-42	Collected	05/19/2024 11:05
Lab Sample ID	3360617012	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 04:43	PDK	B
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 04:43	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	108%	62 - 133	05/29/2024 04:43	
4-Bromofluorobenzene	460-00-4	99.4%	79 - 114	05/29/2024 04:43	
Dibromofluoromethane	1868-53-7	95.4%	78 - 116	05/29/2024 04:43	
Toluene-d8	2037-26-5	94.4%	76 - 127	05/29/2024 04:43	



Results

Client Sample ID	MW-38R	Collected	05/19/2024 11:15
Lab Sample ID	3360617013	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	10		ug/L	1.0	SW846 8270E SIM	1	05/23/2024 12:36	S7M	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnapthalene-d10	7297-45-2	61.2%	29 - 112	05/23/2024 12:36	
Fluoranthene-d10	93951-69-0	83.2%	45 - 130	05/23/2024 12:36	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,1-Dichloroethane	8.1		ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
2-Hexanone	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B



Results

Client Sample ID	MW-38R	Collected	05/19/2024 11:15
Lab Sample ID	3360617013	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 05:03	PDK	B
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:03	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	109%	62 - 133	05/29/2024 05:03	
4-Bromofluorobenzene	460-00-4	93.8%	79 - 114	05/29/2024 05:03	
Dibromofluoromethane	1868-53-7	95.8%	78 - 116	05/29/2024 05:03	
Toluene-d8	2037-26-5	92.6%	76 - 127	05/29/2024 05:03	



Results

Client Sample ID	MW-09	Collected	05/19/2024 15:35
Lab Sample ID	3360617014	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	3.8		ug/L	1.0	SW846 8270E SIM	1	05/23/2024 13:08	S7M	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	74.8%	29 - 112	05/23/2024 13:08	
Fluoranthene-d10	93951-69-0	78.8%	45 - 130	05/23/2024 13:08	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,1-Dichloroethane	2.9		ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,1-Dichloroethene	60.7		ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
2-Hexanone	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B



Results

Client Sample ID	MW-09	Collected	05/19/2024 15:35
Lab Sample ID	3360617014	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 05:24	PDK	B
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:24	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	110%	62 - 133	05/29/2024 05:24	
4-Bromofluorobenzene	460-00-4	94%	79 - 114	05/29/2024 05:24	
Dibromofluoromethane	1868-53-7	96.8%	78 - 116	05/29/2024 05:24	
Toluene-d8	2037-26-5	93.3%	76 - 127	05/29/2024 05:24	



Results

Client Sample ID	MW-23D	Collected	05/19/2024 15:55
Lab Sample ID	3360617015	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	24.2		ug/L	5.0	SW846 8270E SIM	5	05/29/2024 06:05	M1O	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	69.2%	29 - 112	05/23/2024 13:39	
2-Methylnaphthalene-d10	7297-45-2	69%	29 - 112	05/29/2024 06:05	
Fluoranthene-d10	93951-69-0	81.2%	45 - 130	05/23/2024 13:39	
Fluoranthene-d10	93951-69-0	81.7%	45 - 130	05/29/2024 06:05	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,1,1-Trichloroethane	6.9		ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,1-Dichloroethane	32.7		ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,1-Dichloroethene	134		ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,2-Dichloroethane	1.4		ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
2-Hexanone	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B



Results

Client Sample ID	MW-23D	Collected	05/19/2024 15:55
Lab Sample ID	3360617015	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 05:44	PDK	B
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 05:44	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	108%	62 - 133	05/29/2024 05:44	
4-Bromofluorobenzene	460-00-4	101%	79 - 114	05/29/2024 05:44	
Dibromofluoromethane	1868-53-7	95.3%	78 - 116	05/29/2024 05:44	
Toluene-d8	2037-26-5	93.8%	76 - 127	05/29/2024 05:44	



Results

Client Sample ID	MW-100	Collected	05/19/2024 12:15
Lab Sample ID	3360617016	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	19.1		ug/L	4.2	SW846 8270E SIM	4	05/29/2024 06:32	M1O	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	77.9%	29 - 112	05/23/2024 14:09	
2-Methylnaphthalene-d10	7297-45-2	75.2%	29 - 112	05/29/2024 06:32	
Fluoranthene-d10	93951-69-0	84.6%	45 - 130	05/23/2024 14:09	
Fluoranthene-d10	93951-69-0	85.6%	45 - 130	05/29/2024 06:32	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,1,1-Trichloroethane	4.4		ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,1-Dichloroethane	20.7		ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,1-Dichloroethene	96.6		ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,2-Dichloroethane	1.1		ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
2-Hexanone	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B



Results

Client Sample ID	MW-100	Collected	05/19/2024 12:15
Lab Sample ID	3360617016	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Methyl t-Butyl Ether	1.1		ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 06:04	PDK	B
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:04	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	107%	62 - 133	05/29/2024 06:04	
4-Bromofluorobenzene	460-00-4	97.7%	79 - 114	05/29/2024 06:04	
Dibromofluoromethane	1868-53-7	95%	78 - 116	05/29/2024 06:04	
Toluene-d8	2037-26-5	91.9%	76 - 127	05/29/2024 06:04	



Results

Client Sample ID	Trip Blank-B	Collected	05/19/2024 00:00
Lab Sample ID	3360617017	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
2-Hexanone	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B



Results

Client Sample ID	Trip Blank-B	Collected	05/19/2024 00:00
Lab Sample ID	3360617017	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	05/29/2024 06:25	PDK	B
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	05/29/2024 06:25	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	111%	62 – 133	05/29/2024 06:25	
4-Bromofluorobenzene	460-00-4	93.5%	79 – 114	05/29/2024 06:25	
Dibromofluoromethane	1868-53-7	97.9%	78 – 116	05/29/2024 06:25	
Toluene-d8	2037-26-5	92.3%	76 – 127	05/29/2024 06:25	



Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3360617001	MW-22D	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3360617002	MW-04R	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3360617003	MW-44	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3360617004	MW-21D	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3360617005	MW-01D	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3360617007	MW-20	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3360617008	MW-16	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3360617009	MW-16D	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3360617010	Trip Blank-A	SW846 8260D	N/A	
3360617011	MW-43	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3360617012	MW-42	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3360617013	MW-38R	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3360617014	MW-09	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3360617015	MW-23D	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3360617016	MW-100	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3360617017	Trip Blank-B	SW846 8260D	N/A	



QUALITY CONTROL SAMPLES

SEMIVOLATILE SIM

QC Batch			
QC Batch	1207715	Prep Method	SW846 3510C
Date	05/22/2024 11:25	Analysis Method	SW846 8270E SIM
Tech.	MJA		

Associated Samples			
3360617001	3360617002	3360617003	3360617004
3360617005	3360617007	3360617008	3360617009
3360617011	3360617012	3360617013	3360617014
3360617015	3360617016		

Method Blank 3828955 (MB) Created on 05/22/2024 06:55 For QC Batch 1207715

RESULTS

Compound	CAS No	Result	Units	RDL	Qualifiers
1,4-Dioxane	123-91-1	BLK	1.0 U ug/L	1.0	U

SURROGATES

Compound	CAS No	Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnapthalene-d10	7297-45-2	BLK	0.74	1	73.9	29 - 112
Fluoranthene-d10	93951-69-0	BLK	0.88	1	88.1	45 - 130

Lab Control Standard 3828956 (LCS) Created on 05/22/2024 06:55 For QC Batch 1207715

RESULTS

Compound	CAS No	Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,4-Dioxane	123-91-1	LCS	0.37	1	37.3	22 - 75		U

SURROGATES

Compound	CAS No	Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnapthalene-d10	7297-45-2	LCS	0.86	1	86	29 - 112
Fluoranthene-d10	93951-69-0	LCS	0.97	1	97	45 - 130

Matrix Spike 3828957 (MS) 3360617004 For QC Batch 1207715

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

RESULTS

Compound	CAS No	Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,4-Dioxane	123-91-1	MS	4.60	4.30	1	NC	22 - 75	

SURROGATES

Compound	CAS No	Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnapthalene-d10	7297-45-2	MS	0.79	1	77.5	29 - 112



QUALITY CONTROL SAMPLES

SEMIVOLATILE SIM (cont.)

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
Fluoranthene-d10	93951-69-0	MS	0.94	1	92.5	45 - 130	

Duplicate 3828958 (DUP) 3360617007 For QC Batch 1207715

****NOTE - The Original Result and Duplicate Result shown below are raw results and are only used for the purpose of calculating Sample Duplicate percent recoveries. This result is not a final value and cannot be used as such.

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)		Qualifiers
1,4-Dioxane	123-91-1	DUP	404.3070	396.4130	RPD 1.97 (Max-30)	

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	DUP	0.82	1	78.7	29 - 112	
2-Methylnaphthalene-d10	7297-45-2	DUP	5.80	1	562*	29 - 112	
Fluoranthene-d10	93951-69-0	DUP	1	1	99	45 - 130	



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS

QC Batch

QC Batch	1209122	Prep Method	N/A
Date	N/A	Analysis Method	SW846 8260D
Tech.			

Associated Samples
 3360617010

Method Blank 3830467 (MB) Created on 05/24/2024 13:31 For QC Batch 1209122

RESULTS

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	BLK	1.0 U ug/L	1.0	U
1,1,1-Trichloroethane	71-55-6	BLK	1.0 U ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	1.0 U ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5	BLK	1.0 U ug/L	1.0	U
1,1-Dichloroethane	75-34-3	BLK	1.0 U ug/L	1.0	U
1,1-Dichloroethene	75-35-4	BLK	1.0 U ug/L	1.0	U
1,1-Dichloropropene	563-58-6	BLK	1.0 U ug/L	1.0	U
1,2,3-Trichlorobenzene	87-61-6	BLK	2.0 U ug/L	2.0	U
1,2,3-Trichloropropane	96-18-4	BLK	2.0 U ug/L	2.0	U
1,2,4-Trichlorobenzene	120-82-1	BLK	2.0 U ug/L	2.0	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	7.0 U ug/L	7.0	U
1,2-Dibromoethane	106-93-4	BLK	1.0 U ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	1.0 U ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	1.0 U ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	1.0 U ug/L	1.0	U
1,3-Dichlorobenzene	541-73-1	BLK	1.0 U ug/L	1.0	U
1,3-Dichloropropane	142-28-9	BLK	1.0 U ug/L	1.0	U
1,4-Dichlorobenzene	106-46-7	BLK	1.0 U ug/L	1.0	U
2,2-Dichloropropane	594-20-7	BLK	1.0 U ug/L	1.0	U
2-Butanone	78-93-3	BLK	10.0 U ug/L	10.0	U
2-Hexanone	591-78-6	BLK	5.0 U ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	5.0 U ug/L	5.0	U
Acetone	67-64-1	BLK	10.0 U ug/L	10.0	U
Benzene	71-43-2	BLK	1.0 U ug/L	1.0	U
Bromobenzene	108-86-1	BLK	1.0 U ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	1.0 U ug/L	1.0	U
Bromodichloromethane	75-27-4	BLK	1.0 U ug/L	1.0	U
Bromoform	75-25-2	BLK	1.0 U ug/L	1.0	U
Bromomethane	74-83-9	BLK	1.0 U ug/L	1.0	U
Carbon Tetrachloride	56-23-5	BLK	1.0 U ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	1.0 U ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	1.0 U ug/L	1.0	U
Chloroethane	75-00-3	BLK	1.0 U ug/L	1.0	U
Chloroform	67-66-3	BLK	1.0 U ug/L	1.0	U
Chloromethane	74-87-3	BLK	1.0 U ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	1.0 U ug/L	1.0	U
cis-1,3-Dichloropropene	10061-01-5	BLK	1.0 U ug/L	1.0	U
Dibromomethane	74-95-3	BLK	1.0 U ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	1.0 U ug/L	1.0	U



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
Diisopropyl ether	108-20-3	BLK	1.0 U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	1.0 U	ug/L	1.0	U
Hexachlorobutadiene	87-68-3	BLK	5.0 U	ug/L	5.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	1.0 U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	1.0 U	ug/L	1.0	U
mp-Xylene	108383/106423	BLK	2.0 U	ug/L	2.0	U
Naphthalene	91-20-3	BLK	2.0 U	ug/L	2.0	U
o-Chlorotoluene	95-49-8	BLK	1.0 U	ug/L	1.0	U
o-Xylene	95-47-6	BLK	1.0 U	ug/L	1.0	U
p-Chlorotoluene	106-43-4	BLK	1.0 U	ug/L	1.0	U
p-Isopropyltoluene	99-87-6	BLK	1.0 U	ug/L	1.0	U
Styrene	100-42-5	BLK	1.0 U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	1.0 U	ug/L	1.0	U
Toluene	108-88-3	BLK	1.0 U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	3.0 U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	1.0 U	ug/L	1.0	U
trans-1,3-Dichloropropene	10061-02-6	BLK	1.0 U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	1.0 U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	1.0 U	ug/L	1.0	U
Vinyl Acetate	108-05-4	BLK	5.0 U	ug/L	5.0	U
Vinyl Chloride	75-01-4	BLK	1.0 U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	32.30	30	108	62 - 133	
4-Bromofluorobenzene	460-00-4	BLK	29.70	30	99.1	79 - 114	
Dibromofluoromethane	1868-53-7	BLK	31.20	30	104	78 - 116	
Toluene-d8	2037-26-5	BLK	29.30	30	97.6	76 - 127	

Lab Control Standard 3830468 (LCS) Created on 05/24/2024 13:31 For QC Batch 1209122

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	LCS	22.20		20	111	78 - 121		
1,1,1-Trichloroethane	71-55-6	LCS	22.10		20	111	66 - 130		
1,1,2,2-Tetrachloroethane	79-34-5	LCS	19		20	95.2	74 - 135		
1,1,2-Trichloroethane	79-00-5	LCS	19.10		20	95.7	82 - 126		
1,1-Dichloroethane	75-34-3	LCS	19.50		20	97.4	78 - 124		
1,1-Dichloroethene	75-35-4	LCS	20.40		20	102	63 - 128		
1,1-Dichloropropene	563-58-6	LCS	20.30		20	101	76 - 126		
1,2,3-Trichlorobenzene	87-61-6	LCS	20.10		20	100	61 - 126		
1,2,3-Trichloropropane	96-18-4	LCS	19.20		20	96.1	75 - 132		
1,2,4-Trichlorobenzene	120-82-1	LCS	20.80		20	104	67 - 123		
1,2-Dibromo-3-chloropropane	96-12-8	LCS	18		20	89.9	59 - 133		



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,2-Dibromoethane	106-93-4	LCS	20		20	100	80 - 124		
1,2-Dichlorobenzene	95-50-1	LCS	19.70		20	98.7	82 - 118		
1,2-Dichloroethane	107-06-2	LCS	21.10		20	105	70 - 133		
1,2-Dichloropropane	78-87-5	LCS	18.80		20	94	81 - 127		
1,3-Dichlorobenzene	541-73-1	LCS	19.80		20	98.8	81 - 118		
1,3-Dichloropropane	142-28-9	LCS	19.30		20	96.6	82 - 126		
1,4-Dichlorobenzene	106-46-7	LCS	20.40		20	102	81 - 116		
2,2-Dichloropropane	594-20-7	LCS	22.20		20	111	64 - 129		
2-Butanone	78-93-3	LCS	95.80		100	95.8	50 - 152		
2-Hexanone	591-78-6	LCS	96		100	96	65 - 154		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	94.60		100	94.6	71 - 146		
Acetone	67-64-1	LCS	96.70		100	96.7	40 - 151		
Benzene	71-43-2	LCS	20.50		20	103	80 - 124		
Bromobenzene	108-86-1	LCS	20.20		20	101	81 - 119		
Bromochloromethane	74-97-5	LCS	21.40		20	107	73 - 117		
Bromodichloromethane	75-27-4	LCS	21.50		20	108	79 - 126		
Bromoform	75-25-2	LCS	18.90		20	94.3	70 - 123		
Bromomethane	74-83-9	LCS	22.20		20	111	45 - 148		
Carbon Tetrachloride	56-23-5	LCS	22.40		20	112	62 - 132		
Chlorobenzene	108-90-7	LCS	20.40		20	102	85 - 117		
Chlorodibromomethane	124-48-1	LCS	21.40		20	107	77 - 122		
Chloroethane	75-00-3	LCS	22.30		20	111	51 - 142		
Chloroform	67-66-3	LCS	20.90		20	105	78 - 122		
Chloromethane	74-87-3	LCS	15.30		20	76.7	38 - 156		
cis-1,2-Dichloroethene	156-59-2	LCS	20		20	100	78 - 125		
cis-1,3-Dichloropropene	10061-01-5	LCS	19.70		20	98.4	81 - 121		
Dibromomethane	74-95-3	LCS	20.10		20	100	81 - 125		
Dichlorodifluoromethane	75-71-8	LCS	23.70		20	118	17 - 166		
Diisopropyl ether	108-20-3	LCS	18.40		20	92.1	74 - 131		
Ethylbenzene	100-41-4	LCS	20.60		20	103	80 - 124		
Hexachlorobutadiene	87-68-3	LCS	22.50		20	112	55 - 128		
Methyl t-Butyl Ether	1634-04-4	LCS	20.80		20	104	69 - 115		
Methylene Chloride	75-09-2	LCS	19.70		20	98.3	76 - 121		
mp-Xylene	108383/106423	LCS	41.70		40	104	79 - 125		
Naphthalene	91-20-3	LCS	19.70		20	98.4	56 - 134		
o-Chlorotoluene	95-49-8	LCS	19.20		20	95.8	78 - 126		
o-Xylene	95-47-6	LCS	19.90		20	99.7	79 - 124		
p-Chlorotoluene	106-43-4	LCS	19.30		20	96.6	78 - 125		
p-Isopropyltoluene	99-87-6	LCS	19.40		20	97.1	72 - 123		
Styrene	100-42-5	LCS	19.80		20	99.2	79 - 123		
Tetrachloroethene	127-18-4	LCS	21.20		20	106	72 - 124		
Toluene	108-88-3	LCS	19.80		20	98.8	80 - 125		
Total Xylenes	1330-20-7	LCS	61.60		60	103	79 - 125		
trans-1,2-Dichloroethene	156-60-5	LCS	19.60		20	98.1	71 - 122		
trans-1,3-Dichloropropene	10061-02-6	LCS	20.80		20	104	78 - 126		
Trichloroethene	79-01-6	LCS	20.50		20	102	77 - 124		
Trichlorofluoromethane	75-69-4	LCS	24.20		20	121	38 - 123		



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Vinyl Acetate	108-05-4	LCS	20.30		20	101	58 - 136		
Vinyl Chloride	75-01-4	LCS	21.70		20	109	27 - 138		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	33.10	30	110	62 - 133	
4-Bromofluorobenzene	460-00-4	LCS	31.20	30	104	79 - 114	
Dibromofluoromethane	1868-53-7	LCS	31.40	30	105	78 - 116	
Toluene-d8	2037-26-5	LCS	30	30	100	76 - 127	

QC Batch

Associated Samples

QC Batch	1210108	Prep Method	N/A
Date	N/A	Analysis Method	SW846 8260D
Tech.			

3360617001	3360617002	3360617003	3360617005
3360617007	3360617008	3360617009	3360617011
3360617012	3360617013	3360617014	3360617015
3360617016	3360617017		

Method Blank

3831387 (MB)

Created on 05/29/2024 00:12

For QC Batch 1210108

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	BLK	1.0	ug/L	1.0	U
1,1,1-Trichloroethane	71-55-6	BLK	1.0	ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	1.0	ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5	BLK	1.0	ug/L	1.0	U
1,1-Dichloroethane	75-34-3	BLK	1.0	ug/L	1.0	U
1,1-Dichloroethene	75-35-4	BLK	1.0	ug/L	1.0	U
1,1-Dichloropropene	563-58-6	BLK	1.0	ug/L	1.0	U
1,2,3-Trichlorobenzene	87-61-6	BLK	2.0	ug/L	2.0	U
1,2,3-Trichloropropane	96-18-4	BLK	2.0	ug/L	2.0	U
1,2,4-Trichlorobenzene	120-82-1	BLK	2.0	ug/L	2.0	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	7.0	ug/L	7.0	U
1,2-Dibromoethane	106-93-4	BLK	1.0	ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	1.0	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	1.0	ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	1.0	ug/L	1.0	U
1,3-Dichlorobenzene	541-73-1	BLK	1.0	ug/L	1.0	U
1,3-Dichloropropane	142-28-9	BLK	1.0	ug/L	1.0	U
1,4-Dichlorobenzene	106-46-7	BLK	1.0	ug/L	1.0	U
2,2-Dichloropropane	594-20-7	BLK	1.0	ug/L	1.0	U
2-Butanone	78-93-3	BLK	10.0	ug/L	10.0	U
2-Hexanone	591-78-6	BLK	5.0	ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	5.0	ug/L	5.0	U



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
Acetone	67-64-1	BLK	10.0 U	ug/L	10.0	U
Benzene	71-43-2	BLK	1.0 U	ug/L	1.0	U
Bromobenzene	108-86-1	BLK	1.0 U	ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	1.0 U	ug/L	1.0	U
Bromodichloromethane	75-27-4	BLK	1.0 U	ug/L	1.0	U
Bromoform	75-25-2	BLK	1.0 U	ug/L	1.0	U
Bromomethane	74-83-9	BLK	1.0 U	ug/L	1.0	U
Carbon Tetrachloride	56-23-5	BLK	1.0 U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	1.0 U	ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	1.0 U	ug/L	1.0	U
Chloroethane	75-00-3	BLK	1.0 U	ug/L	1.0	U
Chloroform	67-66-3	BLK	1.0 U	ug/L	1.0	U
Chloromethane	74-87-3	BLK	1.0 U	ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	1.0 U	ug/L	1.0	U
cis-1,3-Dichloropropene	10061-01-5	BLK	1.0 U	ug/L	1.0	U
Dibromomethane	74-95-3	BLK	1.0 U	ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	1.0 U	ug/L	1.0	U
Diisopropyl ether	108-20-3	BLK	1.0 U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	1.0 U	ug/L	1.0	U
Hexachlorobutadiene	87-68-3	BLK	5.0 U	ug/L	5.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	1.0 U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	1.0 U	ug/L	1.0	U
mp-Xylene	108383/106423	BLK	2.0 U	ug/L	2.0	U
Naphthalene	91-20-3	BLK	2.0 U	ug/L	2.0	U
o-Chlorotoluene	95-49-8	BLK	1.0 U	ug/L	1.0	U
o-Xylene	95-47-6	BLK	1.0 U	ug/L	1.0	U
p-Chlorotoluene	106-43-4	BLK	1.0 U	ug/L	1.0	U
p-Isopropyltoluene	99-87-6	BLK	1.0 U	ug/L	1.0	U
Styrene	100-42-5	BLK	1.0 U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	1.0 U	ug/L	1.0	U
Toluene	108-88-3	BLK	1.0 U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	3.0 U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	1.0 U	ug/L	1.0	U
trans-1,3-Dichloropropene	10061-02-6	BLK	1.0 U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	1.0 U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	1.0 U	ug/L	1.0	U
Vinyl Acetate	108-05-4	BLK	5.0 U	ug/L	5.0	U
Vinyl Chloride	75-01-4	BLK	1.0 U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	32.70	30	109	62 - 133	
4-Bromofluorobenzene	460-00-4	BLK	28.70	30	95.7	79 - 114	
Dibromofluoromethane	1868-53-7	BLK	29.40	30	98	78 - 116	
Toluene-d8	2037-26-5	BLK	28.30	30	94.3	76 - 127	



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

Lab Control Standard 3831388 (LCS) Created on 05/29/2024 00:12 For QC Batch 1210108

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	LCS	20.10		20	101	78 - 121		
1,1,1-Trichloroethane	71-55-6	LCS	21.50		20	108	66 - 130		
1,1,2,2-Tetrachloroethane	79-34-5	LCS	20.90		20	105	74 - 135		
1,1,2-Trichloroethane	79-00-5	LCS	19.80		20	99	82 - 126		
1,1-Dichloroethane	75-34-3	LCS	21.50		20	107	78 - 124		
1,1-Dichloroethene	75-35-4	LCS	23.20		20	116	63 - 128		
1,1-Dichloropropene	563-58-6	LCS	21.70		20	109	76 - 126		
1,2,3-Trichlorobenzene	87-61-6	LCS	18.30		20	91.4	61 - 126		
1,2,3-Trichloropropane	96-18-4	LCS	20.30		20	102	75 - 132		
1,2,4-Trichlorobenzene	120-82-1	LCS	19.30		20	96.4	67 - 123		
1,2-Dibromo-3-chloropropane	96-12-8	LCS	15.90		20	79.7	59 - 133		
1,2-Dibromoethane	106-93-4	LCS	19.20		20	96	80 - 124		
1,2-Dichlorobenzene	95-50-1	LCS	19.80		20	99.2	82 - 118		
1,2-Dichloroethane	107-06-2	LCS	20.80		20	104	70 - 133		
1,2-Dichloropropane	78-87-5	LCS	21.70		20	108	81 - 127		
1,3-Dichlorobenzene	541-73-1	LCS	19.10		20	95.4	81 - 118		
1,3-Dichloropropane	142-28-9	LCS	19.60		20	98	82 - 126		
1,4-Dichlorobenzene	106-46-7	LCS	19.60		20	97.8	81 - 116		
2,2-Dichloropropane	594-20-7	LCS	23.70		20	118	64 - 129		
2-Butanone	78-93-3	LCS	103		100	103	50 - 152		
2-Hexanone	591-78-6	LCS	115		100	115	65 - 154		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	113		100	113	71 - 146		
Acetone	67-64-1	LCS	107		100	107	40 - 151		
Benzene	71-43-2	LCS	21.20		20	106	80 - 124		
Bromobenzene	108-86-1	LCS	19.10		20	95.7	81 - 119		
Bromochloromethane	74-97-5	LCS	20.60		20	103	73 - 117		
Bromodichloromethane	75-27-4	LCS	21.70		20	108	79 - 126		
Bromoform	75-25-2	LCS	18.10		20	90.3	70 - 123		
Bromomethane	74-83-9	LCS	24.40		20	122	45 - 148		
Carbon Tetrachloride	56-23-5	LCS	21.90		20	109	62 - 132		
Chlorobenzene	108-90-7	LCS	18.80		20	93.8	85 - 117		
Chlorodibromomethane	124-48-1	LCS	16.90		20	84.4	77 - 122		
Chloroethane	75-00-3	LCS	21.20		20	106	51 - 142		
Chloroform	67-66-3	LCS	22.10		20	110	78 - 122		
Chloromethane	74-87-3	LCS	20.20		20	101	38 - 156		
cis-1,2-Dichloroethene	156-59-2	LCS	21.60		20	108	78 - 125		
cis-1,3-Dichloropropene	10061-01-5	LCS	20.70		20	103	81 - 121		
Dibromomethane	74-95-3	LCS	20.40		20	102	81 - 125		
Dichlorodifluoromethane	75-71-8	LCS	19.30		20	96.7	17 - 166		
Diisopropyl ether	108-20-3	LCS	22.90		20	115	74 - 131		
Ethylbenzene	100-41-4	LCS	19.80		20	98.8	80 - 124		
Hexachlorobutadiene	87-68-3	LCS	19.90		20	99.5	55 - 128		
Methyl t-Butyl Ether	1634-04-4	LCS	21.70		20	108	69 - 115		
Methylene Chloride	75-09-2	LCS	21		20	105	76 - 121		



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
mp-Xylene	108383/106423	LCS	39.10		40	97.7	79 - 125		
Naphthalene	91-20-3	LCS	20.60		20	103	56 - 134		
o-Chlorotoluene	95-49-8	LCS	20.60		20	103	78 - 126		
o-Xylene	95-47-6	LCS	18.90		20	94.6	79 - 124		
p-Chlorotoluene	106-43-4	LCS	20.90		20	104	78 - 125		
p-Isopropyltoluene	99-87-6	LCS	19.20		20	96	72 - 123		
Styrene	100-42-5	LCS	21.70		20	109	79 - 123		
Tetrachloroethene	127-18-4	LCS	19.60		20	98.1	72 - 124		
Toluene	108-88-3	LCS	19.20		20	95.8	80 - 125		
Total Xylenes	1330-20-7	LCS	58		60	96.6	79 - 125		
trans-1,2-Dichloroethene	156-60-5	LCS	22.20		20	111	71 - 122		
trans-1,3-Dichloropropene	10061-02-6	LCS	20.90		20	105	78 - 126		
Trichloroethene	79-01-6	LCS	21.30		20	106	77 - 124		
Trichlorofluoromethane	75-69-4	LCS	22.50		20	113	38 - 123		
Vinyl Acetate	108-05-4	LCS	19.20		20	96	58 - 136		
Vinyl Chloride	75-01-4	LCS	19.90		20	99.5	27 - 138		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	29.70	30	99.1	62 - 133	
4-Bromofluorobenzene	460-00-4	LCS	27.80	30	92.7	79 - 114	
Dibromofluoromethane	1868-53-7	LCS	29.50	30	98.4	78 - 116	
Toluene-d8	2037-26-5	LCS	28.20	30	94.1	76 - 127	

QC Batch

Associated Samples

<u>QC Batch</u>	1210272	<u>Prep Method</u>	N/A
<u>Date</u>	N/A	<u>Analysis Method</u>	SW846 8260D
<u>Tech.</u>			

3360617004

Matrix Spike 3831901 (MS) 3360622012 (non-Project Sample) For QC Batch 1210272

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3831902 (MSD) 3360622012 (non-Project Sample) For QC Batch 1210272

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	MS	20.40	0	20	102	78 - 121		
1,1,1,2-Tetrachloroethane	630-20-6	MSD	19.50	0	20	97.6	78 - 121	RPD <u>4.17</u> (Max-16)	
1,1,1-Trichloroethane	71-55-6	MS	23.70	0	20	118	66 - 130		
1,1,1-Trichloroethane	71-55-6	MSD	22.50	0	20	113	66 - 130	RPD <u>4.95</u> (Max-20)	



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,2,2-Tetrachloroethane	79-34-5	MS	22.50	0	20	113	74 - 135		
1,1,2,2-Tetrachloroethane	79-34-5	MSD	22.60	0	20	113	74 - 135	RPD	<u>0.09</u> (Max-16)
1,1,2-Trichloroethane	79-00-5	MS	20.90	0	20	104	82 - 126		
1,1,2-Trichloroethane	79-00-5	MSD	19.60	0	20	98.2	82 - 126	RPD	<u>6.15</u> (Max-15)
1,1-Dichloroethane	75-34-3	MS	24.80	0.41	20	122	78 - 124		
1,1-Dichloroethane	75-34-3	MSD	23.40	0.41	20	115	78 - 124	RPD	<u>5.88</u> (Max-15)
1,1-Dichloroethene	75-35-4	MS	40.20	13.20	20	135*	63 - 128		
1,1-Dichloroethene	75-35-4	MSD	38.10	13.20	20	125	63 - 128	RPD	<u>5.52</u> (Max-21)
1,1-Dichloropropene	563-58-6	MS	23.50	0	20	117	76 - 126		
1,1-Dichloropropene	563-58-6	MSD	22.10	0	20	111	76 - 126	RPD	<u>5.98</u> (Max-16)
1,2,3-Trichlorobenzene	87-61-6	MS	18.50	0	20	92.7	61 - 126		
1,2,3-Trichlorobenzene	87-61-6	MSD	18.40	0	20	92	61 - 126	RPD	<u>0.78</u> (Max-36)
1,2,3-Trichloropropane	96-18-4	MS	20.80	0	20	104	75 - 132		
1,2,3-Trichloropropane	96-18-4	MSD	22	0	20	110	75 - 132	RPD	<u>5.80</u> (Max-19)
1,2,4-Trichlorobenzene	120-82-1	MS	17.80	0	20	89.1	67 - 123		
1,2,4-Trichlorobenzene	120-82-1	MSD	17.20	0	20	86.1	67 - 123	RPD	<u>3.40</u> (Max-22)
1,2-Dibromo-3-chloropropane	96-12-8	MS	17.40	0	20	86.9	59 - 133		
1,2-Dibromo-3-chloropropane	96-12-8	MSD	17.90	0	20	89.7	59 - 133	RPD	<u>3.24</u> (Max-26)
1,2-Dibromoethane	106-93-4	MS	20	0	20	100	80 - 124		
1,2-Dibromoethane	106-93-4	MSD	19	0	20	95.2	80 - 124	RPD	<u>5.14</u> (Max-19)
1,2-Dichlorobenzene	95-50-1	MS	19.90	0	20	99.5	82 - 118		
1,2-Dichlorobenzene	95-50-1	MSD	19.30	0	20	96.4	82 - 118	RPD	<u>3.14</u> (Max-15)
1,2-Dichloroethane	107-06-2	MS	23.20	0	20	116	70 - 133		
1,2-Dichloroethane	107-06-2	MSD	22.10	0	20	111	70 - 133	RPD	<u>4.84</u> (Max-19)
1,2-Dichloropropane	78-87-5	MS	23.70	0	20	119	81 - 127		
1,2-Dichloropropane	78-87-5	MSD	22.40	0	20	112	81 - 127	RPD	<u>5.44</u> (Max-15)
1,3-Dichlorobenzene	541-73-1	MS	19.50	0	20	97.3	81 - 118		
1,3-Dichlorobenzene	541-73-1	MSD	19.10	0	20	95.6	81 - 118	RPD	<u>1.74</u> (Max-16)
1,3-Dichloropropane	142-28-9	MS	20.90	0	20	104	82 - 126		
1,3-Dichloropropane	142-28-9	MSD	19.70	0	20	98.5	82 - 126	RPD	<u>5.91</u> (Max-15)
1,4-Dichlorobenzene	106-46-7	MS	19.50	0	20	97.5	81 - 116		
1,4-Dichlorobenzene	106-46-7	MSD	19.40	0	20	96.9	81 - 116	RPD	<u>0.71</u> (Max-15)
2,2-Dichloropropane	594-20-7	MS	23.40	0	20	117	64 - 129		
2,2-Dichloropropane	594-20-7	MSD	21.80	0	20	109	64 - 129	RPD	<u>7.05</u> (Max-18)
2-Butanone	78-93-3	MS	116	0	100	116	50 - 152		
2-Butanone	78-93-3	MSD	116	0	100	116	50 - 152	RPD	<u>0.09</u> (Max-16)
2-Hexanone	591-78-6	MS	115	0	100	115	65 - 154		
2-Hexanone	591-78-6	MSD	112	0	100	112	65 - 154	RPD	<u>2.42</u> (Max-17)
4-Methyl-2-Pentanone(MIBK)	108-10-1	MS	118	0	100	118	71 - 146		
4-Methyl-2-Pentanone(MIBK)	108-10-1	MSD	114	0	100	114	71 - 146	RPD	<u>3.19</u> (Max-16)
Acetone	67-64-1	MS	101	0	100	101	40 - 151		
Acetone	67-64-1	MSD	103	0	100	103	40 - 151	RPD	<u>2.37</u> (Max-40)
Benzene	71-43-2	MS	23.20	0	20	116	80 - 124		
Benzene	71-43-2	MSD	22	0	20	110	80 - 124	RPD	<u>5.37</u> (Max-26)
Bromobenzene	108-86-1	MS	20.60	0	20	103	81 - 119		
Bromobenzene	108-86-1	MSD	20.70	0	20	103	81 - 119	RPD	<u>0.34</u> (Max-17)
Bromochloromethane	74-97-5	MS	22.80	0	20	114	73 - 117		
Bromochloromethane	74-97-5	MSD	21.80	0	20	109	73 - 117	RPD	<u>4.51</u> (Max-19)
Bromodichloromethane	75-27-4	MS	23.10	0	20	116	79 - 126		



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Bromodichloromethane	75-27-4	MSD	22.10	0	20	110	79 - 126	RPD <u>4.80</u> (Max-16)	
Bromoform	75-25-2	MS	17.50	0	20	87.3	70 - 123		
Bromoform	75-25-2	MSD	18	0	20	90.2	70 - 123	RPD <u>3.25</u> (Max-16)	
Bromomethane	74-83-9	MS	24.20	0	20	121	45 - 148		
Bromomethane	74-83-9	MSD	23.70	0	20	118	45 - 148	RPD <u>2.36</u> (Max-26)	
Carbon Tetrachloride	56-23-5	MS	28.20	0	20	141*	62 - 132		
Carbon Tetrachloride	56-23-5	MSD	26.90	0	20	134*	62 - 132	RPD <u>4.74</u> (Max-17)	
Chlorobenzene	108-90-7	MS	19.50	0	20	97.6	85 - 117		
Chlorobenzene	108-90-7	MSD	18.30	0	20	91.3	85 - 117	RPD <u>6.75</u> (Max-15)	
Chlorodibromomethane	124-48-1	MS	17.20	0	20	86.2	77 - 122		
Chlorodibromomethane	124-48-1	MSD	16.70	0	20	83.3	77 - 122	RPD <u>3.51</u> (Max-15)	
Chloroethane	75-00-3	MS	23.10	0	20	116	51 - 142		
Chloroethane	75-00-3	MSD	21.80	0	20	109	51 - 142	RPD <u>5.98</u> (Max-24)	
Chloroform	67-66-3	MS	23.60	0	20	118	78 - 122		
Chloroform	67-66-3	MSD	22.30	0	20	112	78 - 122	RPD <u>5.69</u> (Max-16)	
Chloromethane	74-87-3	MS	21.70	0	20	108	38 - 156		
Chloromethane	74-87-3	MSD	20.30	0	20	101	38 - 156	RPD <u>6.72</u> (Max-27)	
cis-1,2-Dichloroethene	156-59-2	MS	24	0	20	120	78 - 125		
cis-1,2-Dichloroethene	156-59-2	MSD	22.50	0	20	112	78 - 125	RPD <u>6.50</u> (Max-21)	
cis-1,3-Dichloropropene	10061-01-5	MS	21.20	0	20	106	81 - 121		
cis-1,3-Dichloropropene	10061-01-5	MSD	20	0	20	99.8	81 - 121	RPD <u>6.20</u> (Max-16)	
Dibromomethane	74-95-3	MS	21.80	0	20	109	81 - 125		
Dibromomethane	74-95-3	MSD	21.30	0	20	106	81 - 125	RPD <u>2.51</u> (Max-16)	
Dichlorodifluoromethane	75-71-8	MS	20.10	0	20	101	17 - 166		
Dichlorodifluoromethane	75-71-8	MSD	18.90	0	20	94.6	17 - 166	RPD <u>6.20</u> (Max-24)	
Diisopropyl ether	108-20-3	MS	25.50	0	20	127	74 - 131		
Diisopropyl ether	108-20-3	MSD	24.50	0	20	122	74 - 131	RPD <u>4.12</u> (Max-15)	
Ethylbenzene	100-41-4	MS	20.80	0	20	104	80 - 124		
Ethylbenzene	100-41-4	MSD	18.90	0	20	94.7	80 - 124	RPD <u>9.48</u> (Max-19)	
Hexachlorobutadiene	87-68-3	MS	16.80	0	20	84.1	55 - 128		
Hexachlorobutadiene	87-68-3	MSD	17.30	0	20	86.7	55 - 128	RPD <u>3.14</u> (Max-35)	
Methyl t-Butyl Ether	1634-04-4	MS	23.50	0	20	117*	69 - 115		
Methyl t-Butyl Ether	1634-04-4	MSD	22.80	0	20	114	69 - 115	RPD <u>3.11</u> (Max-20)	
Methylene Chloride	75-09-2	MS	22.90	0	20	115	76 - 121		
Methylene Chloride	75-09-2	MSD	21.60	0	20	108	76 - 121	RPD <u>5.79</u> (Max-17)	
mp-Xylene	108383/106423	MS	39.80	0	40	99.4	79 - 125		
mp-Xylene	108383/106423	MSD	37	0	40	92.6	79 - 125	RPD <u>7.12</u> (Max-21)	
Naphthalene	91-20-3	MS	19.80	0	20	99	56 - 134		
Naphthalene	91-20-3	MSD	20	0	20	100	56 - 134	RPD <u>1</u> (Max-40)	
o-Chlorotoluene	95-49-8	MS	21.70	0	20	108	78 - 126		
o-Chlorotoluene	95-49-8	MSD	21.10	0	20	105	78 - 126	RPD <u>2.85</u> (Max-17)	
o-Xylene	95-47-6	MS	19.60	0	20	98	79 - 124		
o-Xylene	95-47-6	MSD	18.40	0	20	91.8	79 - 124	RPD <u>6.56</u> (Max-19)	
p-Chlorotoluene	106-43-4	MS	21.40	0	20	107	78 - 125		
p-Chlorotoluene	106-43-4	MSD	20.90	0	20	105	78 - 125	RPD <u>2.27</u> (Max-16)	
p-Isopropyltoluene	99-87-6	MS	19	0	20	95	72 - 123		
p-Isopropyltoluene	99-87-6	MSD	18.60	0	20	93.2	72 - 123	RPD <u>1.85</u> (Max-17)	
Styrene	100-42-5	MS	22.30	0	20	111	79 - 123		
Styrene	100-42-5	MSD	21.40	0	20	107	79 - 123	RPD <u>4.06</u> (Max-16)	



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Tetrachloroethene	127-18-4	MS	18.70	0	20	93.3	72 - 124		
Tetrachloroethene	127-18-4	MSD	17.60	0	20	88.1	72 - 124	RPD	<u>5.78</u> (Max-38)
Toluene	108-88-3	MS	20.80	0	20	104	80 - 125		
Toluene	108-88-3	MSD	19.10	0	20	95.7	80 - 125	RPD	<u>8.28</u> (Max-20)
Total Xylenes	1330-20-7	MS	59.40	0	60	99	79 - 125		
Total Xylenes	1330-20-7	MSD	55.40	0	60	92.3	79 - 125	RPD	<u>6.94</u> (Max-35)
trans-1,2-Dichloroethene	156-60-5	MS	24	0	20	120	71 - 122		
trans-1,2-Dichloroethene	156-60-5	MSD	23.30	0	20	116	71 - 122	RPD	<u>3.08</u> (Max-22)
trans-1,3-Dichloropropene	10061-02-6	MS	21.80	0	20	109	78 - 126		
trans-1,3-Dichloropropene	10061-02-6	MSD	20.80	0	20	104	78 - 126	RPD	<u>5.03</u> (Max-18)
Trichloroethene	79-01-6	MS	22.80	0	20	114	77 - 124		
Trichloroethene	79-01-6	MSD	21.30	0	20	106	77 - 124	RPD	<u>6.92</u> (Max-18)
Trichlorofluoromethane	75-69-4	MS	24.50	0	20	122	38 - 123		
Trichlorofluoromethane	75-69-4	MSD	23.10	0	20	116	38 - 123	RPD	<u>5.79</u> (Max-23)
Vinyl Acetate	108-05-4	MS	17.50	0	20	87.5	58 - 136		
Vinyl Acetate	108-05-4	MSD	17.60	0	20	88.1	58 - 136	RPD	<u>0.69</u> (Max-17)
Vinyl Chloride	75-01-4	MS	23.20	0	20	116	27 - 138		
Vinyl Chloride	75-01-4	MSD	21	0	20	105	27 - 138	RPD	<u>9.81</u> (Max-40)

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	MS	34.10	30	114	62 - 133	
1,2-Dichloroethane-d4	17060-07-0	MSD	32.70	30	109	62 - 133	
4-Bromofluorobenzene	460-00-4	MS	26.90	30	89.6	79 - 114	
4-Bromofluorobenzene	460-00-4	MSD	30.60	30	102	79 - 114	
Dibromofluoromethane	1868-53-7	MS	30.50	30	102	78 - 116	
Dibromofluoromethane	1868-53-7	MSD	30.20	30	101	78 - 116	
Toluene-d8	2037-26-5	MS	27.30	30	91.2	76 - 127	
Toluene-d8	2037-26-5	MSD	27.70	30	92.2	76 - 127	

Lab Control Standard

3831816 (LCS)

Created on 05/29/2024 12:49

For QC Batch 1210272

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	LCS	19.70		20	98.6	78 - 121		
1,1,1-Trichloroethane	71-55-6	LCS	21.80		20	109	66 - 130		
1,1,2,2-Tetrachloroethane	79-34-5	LCS	21.70		20	108	74 - 135		
1,1,2-Trichloroethane	79-00-5	LCS	19.60		20	97.9	82 - 126		
1,1-Dichloroethane	75-34-3	LCS	22		20	110	78 - 124		
1,1-Dichloroethene	75-35-4	LCS	24.80		20	124	63 - 128		
1,1-Dichloropropene	563-58-6	LCS	21.60		20	108	76 - 126		
1,2,3-Trichlorobenzene	87-61-6	LCS	18		20	89.8	61 - 126		
1,2,3-Trichloropropane	96-18-4	LCS	20.70		20	104	75 - 132		
1,2,4-Trichlorobenzene	120-82-1	LCS	18		20	90.2	67 - 123		



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,2-Dibromo-3-chloropropane	96-12-8	LCS	16		20	80.1	59 - 133		
1,2-Dibromoethane	106-93-4	LCS	19.40		20	96.8	80 - 124		
1,2-Dichlorobenzene	95-50-1	LCS	19.10		20	95.7	82 - 118		
1,2-Dichloroethane	107-06-2	LCS	21.60		20	108	70 - 133		
1,2-Dichloropropane	78-87-5	LCS	21.70		20	109	81 - 127		
1,3-Dichlorobenzene	541-73-1	LCS	18.90		20	94.6	81 - 118		
1,3-Dichloropropane	142-28-9	LCS	19.40		20	97	82 - 126		
1,4-Dichlorobenzene	106-46-7	LCS	19.10		20	95.3	81 - 116		
2,2-Dichloropropane	594-20-7	LCS	22		20	110	64 - 129		
2-Butanone	78-93-3	LCS	103		100	103	50 - 152		
2-Hexanone	591-78-6	LCS	109		100	109	65 - 154		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	108		100	108	71 - 146		
Acetone	67-64-1	LCS	109		100	109	40 - 151		
Benzene	71-43-2	LCS	21.20		20	106	80 - 124		
Bromobenzene	108-86-1	LCS	19.70		20	98.5	81 - 119		
Bromochloromethane	74-97-5	LCS	20.90		20	105	73 - 117		
Bromodichloromethane	75-27-4	LCS	22.10		20	110	79 - 126		
Bromoform	75-25-2	LCS	17.40		20	87	70 - 123		
Bromomethane	74-83-9	LCS	21.90		20	110	45 - 148		
Carbon Tetrachloride	56-23-5	LCS	22.60		20	113	62 - 132		
Chlorobenzene	108-90-7	LCS	18.60		20	92.9	85 - 117		
Chlorodibromomethane	124-48-1	LCS	16.70		20	83.4	77 - 122		
Chloroethane	75-00-3	LCS	20.10		20	101	51 - 142		
Chloroform	67-66-3	LCS	21.90		20	109	78 - 122		
Chloromethane	74-87-3	LCS	19.70		20	98.3	38 - 156		
cis-1,2-Dichloroethene	156-59-2	LCS	21.90		20	110	78 - 125		
cis-1,3-Dichloropropene	10061-01-5	LCS	20		20	99.8	81 - 121		
Dibromomethane	74-95-3	LCS	21.20		20	106	81 - 125		
Dichlorodifluoromethane	75-71-8	LCS	17.50		20	87.4	17 - 166		
Diisopropyl ether	108-20-3	LCS	23.30		20	117	74 - 131		
Ethylbenzene	100-41-4	LCS	19		20	95.1	80 - 124		
Hexachlorobutadiene	87-68-3	LCS	18.70		20	93.6	55 - 128		
Methyl t-Butyl Ether	1634-04-4	LCS	22.30		20	112	69 - 115		
Methylene Chloride	75-09-2	LCS	20.90		20	105	76 - 121		
mp-Xylene	108383/106423	LCS	37.40		40	93.4	79 - 125		
Naphthalene	91-20-3	LCS	19		20	94.8	56 - 134		
o-Chlorotoluene	95-49-8	LCS	20.80		20	104	78 - 126		
o-Xylene	95-47-6	LCS	18.30		20	91.4	79 - 124		
p-Chlorotoluene	106-43-4	LCS	20.90		20	104	78 - 125		
p-Isopropyltoluene	99-87-6	LCS	18.70		20	93.7	72 - 123		
Styrene	100-42-5	LCS	20.60		20	103	79 - 123		
Tetrachloroethene	127-18-4	LCS	19.30		20	96.6	72 - 124		
Toluene	108-88-3	LCS	18.80		20	94	80 - 125		
Total Xylenes	1330-20-7	LCS	55.60		60	92.7	79 - 125		
trans-1,2-Dichloroethene	156-60-5	LCS	22.10		20	111	71 - 122		
trans-1,3-Dichloropropene	10061-02-6	LCS	20.30		20	102	78 - 126		
Trichloroethene	79-01-6	LCS	21.20		20	106	77 - 124		



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Trichlorofluoromethane	75-69-4	LCS	21.10		20	106	38 - 123		
Vinyl Acetate	108-05-4	LCS	19.40		20	96.8	58 - 136		
Vinyl Chloride	75-01-4	LCS	19.90		20	99.4	27 - 138		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	33.50	30	112	62 - 133	
4-Bromofluorobenzene	460-00-4	LCS	28.20	30	94	79 - 114	
Dibromofluoromethane	1868-53-7	LCS	30.70	30	102	78 - 116	
Toluene-d8	2037-26-5	LCS	27.50	30	91.6	76 - 127	

Method Blank 3831817 (MB) Created on 05/29/2024 12:49 For QC Batch 1210272

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	BLK	1.0	ug/L	1.0	U
1,1,1-Trichloroethane	71-55-6	BLK	1.0	ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	1.0	ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5	BLK	1.0	ug/L	1.0	U
1,1-Dichloroethane	75-34-3	BLK	1.0	ug/L	1.0	U
1,1-Dichloroethene	75-35-4	BLK	1.0	ug/L	1.0	U
1,1-Dichloropropene	563-58-6	BLK	1.0	ug/L	1.0	U
1,2,3-Trichlorobenzene	87-61-6	BLK	2.0	ug/L	2.0	U
1,2,3-Trichloropropane	96-18-4	BLK	2.0	ug/L	2.0	U
1,2,4-Trichlorobenzene	120-82-1	BLK	2.0	ug/L	2.0	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	7.0	ug/L	7.0	U
1,2-Dibromoethane	106-93-4	BLK	1.0	ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	1.0	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	1.0	ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	1.0	ug/L	1.0	U
1,3-Dichlorobenzene	541-73-1	BLK	1.0	ug/L	1.0	U
1,3-Dichloropropane	142-28-9	BLK	1.0	ug/L	1.0	U
1,4-Dichlorobenzene	106-46-7	BLK	1.0	ug/L	1.0	U
2,2-Dichloropropane	594-20-7	BLK	1.0	ug/L	1.0	U
2-Butanone	78-93-3	BLK	10.0	ug/L	10.0	U
2-Hexanone	591-78-6	BLK	5.0	ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	5.0	ug/L	5.0	U
Acetone	67-64-1	BLK	10.0	ug/L	10.0	U
Benzene	71-43-2	BLK	1.0	ug/L	1.0	U
Bromobenzene	108-86-1	BLK	1.0	ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	1.0	ug/L	1.0	U
Bromodichloromethane	75-27-4	BLK	1.0	ug/L	1.0	U
Bromoform	75-25-2	BLK	1.0	ug/L	1.0	U
Bromomethane	74-83-9	BLK	1.0	ug/L	1.0	U



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
Carbon Tetrachloride	56-23-5	BLK	1.0 U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	1.0 U	ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	1.0 U	ug/L	1.0	U
Chloroethane	75-00-3	BLK	1.0 U	ug/L	1.0	U
Chloroform	67-66-3	BLK	1.0 U	ug/L	1.0	U
Chloromethane	74-87-3	BLK	1.0 U	ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	1.0 U	ug/L	1.0	U
cis-1,3-Dichloropropene	10061-01-5	BLK	1.0 U	ug/L	1.0	U
Dibromomethane	74-95-3	BLK	1.0 U	ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	1.0 U	ug/L	1.0	U
Diisopropyl ether	108-20-3	BLK	1.0 U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	1.0 U	ug/L	1.0	U
Hexachlorobutadiene	87-68-3	BLK	5.0 U	ug/L	5.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	1.0 U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	1.0 U	ug/L	1.0	U
mp-Xylene	108383/106423	BLK	2.0 U	ug/L	2.0	U
Naphthalene	91-20-3	BLK	2.0 U	ug/L	2.0	U
o-Chlorotoluene	95-49-8	BLK	1.0 U	ug/L	1.0	U
o-Xylene	95-47-6	BLK	1.0 U	ug/L	1.0	U
p-Chlorotoluene	106-43-4	BLK	1.0 U	ug/L	1.0	U
p-Isopropyltoluene	99-87-6	BLK	1.0 U	ug/L	1.0	U
Styrene	100-42-5	BLK	1.0 U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	1.0 U	ug/L	1.0	U
Toluene	108-88-3	BLK	1.0 U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	3.0 U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	1.0 U	ug/L	1.0	U
trans-1,3-Dichloropropene	10061-02-6	BLK	1.0 U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	1.0 U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	1.0 U	ug/L	1.0	U
Vinyl Acetate	108-05-4	BLK	5.0 U	ug/L	5.0	U
Vinyl Chloride	75-01-4	BLK	1.0 U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	31.40	30	105	62 - 133	
4-Bromofluorobenzene	460-00-4	BLK	27.40	30	91.4	79 - 114	
Dibromofluoromethane	1868-53-7	BLK	28	30	93.3	78 - 116	
Toluene-d8	2037-26-5	BLK	27.90	30	93.1	76 - 127	



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3360617001	MW-22D	SW846 3510C N/A	1207715 N/A	05/22/2024 11:25 N/A	MJA	SW846 8270E SIM SW846 8260D	1208566 1210108
3360617002	MW-04R	SW846 3510C N/A	1207715 N/A	05/22/2024 11:25 N/A	MJA	SW846 8270E SIM SW846 8260D	1208566 1210108
3360617003	MW-44	SW846 3510C N/A	1207715 N/A	05/22/2024 11:25 N/A	MJA	SW846 8270E SIM SW846 8260D	1208566 1210108
3360617004	MW-21D	SW846 3510C N/A	1207715 N/A	05/22/2024 11:25 N/A	MJA	SW846 8270E SIM SW846 8260D	1208566 1210272
3360617005	MW-01D	SW846 3510C N/A	1207715 N/A	05/22/2024 11:25 N/A	MJA	SW846 8270E SIM SW846 8260D	1208566 1210108
3360617007	MW-20	SW846 3510C N/A	1207715 N/A	05/22/2024 11:25 N/A	MJA	SW846 8270E SIM SW846 8260D	1208566 1210108
3360617008	MW-16	SW846 3510C N/A	1207715 N/A	05/22/2024 11:25 N/A	MJA	SW846 8270E SIM SW846 8260D	1208566 1210108
3360617009	MW-16D	SW846 3510C N/A	1207715 N/A	05/22/2024 11:25 N/A	MJA	SW846 8270E SIM SW846 8260D	1208566 1210108
3360617010	Trip Blank-A	N/A	N/A	N/A		SW846 8260D	1209122
3360617011	MW-43	SW846 3510C N/A	1207715 N/A	05/22/2024 11:25 N/A	MJA	SW846 8270E SIM SW846 8260D	1208566 1210108
3360617012	MW-42	SW846 3510C N/A	1207715 N/A	05/22/2024 11:25 N/A	MJA	SW846 8270E SIM SW846 8260D	1208566 1210108
3360617013	MW-38R	SW846 3510C N/A	1207715 N/A	05/22/2024 11:25 N/A	MJA	SW846 8270E SIM SW846 8260D	1208566 1210108
3360617014	MW-09	SW846 3510C N/A	1207715 N/A	05/22/2024 11:25 N/A	MJA	SW846 8270E SIM SW846 8260D	1208566 1210108
3360617015	MW-23D	SW846 3510C N/A	1207715 N/A	05/22/2024 11:25 N/A	MJA	SW846 8270E SIM SW846 8260D	1208566 1210108
3360617016	MW-100	SW846 3510C N/A	1207715 N/A	05/22/2024 11:25 N/A	MJA	SW846 8270E SIM SW846 8260D	1208566 1210108
3360617017	Trip Blank-B	N/A	N/A	N/A		SW846 8260D	1210108



301 Fulling Mill Rd, Suite A
Middletown, PA 17057
P. 717-944-5541

**CHAIN OF CUSTODY/
REQUEST FOR ANALYSIS**
**ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /
SAMPLER. INSTRUCTIONS ON THE BACK.**

Client Name: WSP USA
Address: 13530 Duiles Technology Dr, Suite 300, Herndon VA 20171
Contact: Eric Johnson
Phone#:
Project Name#: Kop-Flex onsite 31405668.010
Bill To: P10288395004
Purchase Order #: P10288405604
 Normal-Standard IAT is 10-12 business days.
 Rush-Subject to ALS approval and surcharges.
Date Required: _____ **Approved:** _____
Email: _____

Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	Container Type	CG	AG	Orthophosphate Filtered?	Yes	No	Hexavalent Chromium Filtered?	Yes
1 MW-22D	5/19/24	1455	G 6w	2X	2X					
2 MW-04R	5/19/24	1510	G 6w	2X	2X					
3 MW-44	5/19/24	1355	G 6w	2X	2X					
4 MW-21D	5/19/24	1405	G 6w	2X	2X					
5 MW-01D	5/19/24	1435	G 6w	2X	2X					
6 MW-39	5/19/24	1345	G 6w	2X	2X					
7 MW-2D	5/19/24	1515	G 6w	2X	2X					
8 MW-16	5/19/24	1605	G 6w	2X	2X					
9 MW-16D	5/19/24	1620	G 6w	2X	2X					
10 Trip Blank-A	5/19/24									

Enter Number of Containers Per Sample or Field Results Below.

SDWA Sample Type (see key)	Matrix (See bottom of COC)	8070 1,4 Dioxane	VOCs: EPA 816D
----------------------------	----------------------------	------------------	----------------

Container Type: CG AG
Container Size: 40 250
Preservative: HCl N/A

Temp By: WO Temp (°C) 1
Therm ID: 151
WO Temp (°C): NA
Deviations? NO YES: NA
If YES, list below

Receipt Info Completed By:
Cooler Custody Seal Intact
Sample Custody Seal Intact
Received on Ice
Cooler & Samples Intact
Correct Containers Provided
Sample Label/COC Agree
Adequate Sample Volumes
CR6 Samples Filtered
OP Samples Filtered
VOA Trip Blank
NIS: 4 Days?
Rad Screen (uCi)
Courier/Tracking #:

SDWA Compliance: Y N
PWSID: Y N
WV Containers 0.6°C: Y N

Client contact: _____
Rad Screen (uCi): _____
New Source?: Y N
New Source Contact: _____

PWS Contact: _____ **PWS Phone #:** _____

SDWA Sample Type Key: D=Distribution E=Entry Point
R=Raw P=Plant C=Check S=Special A=Annual Startup

Sample/COC Remarks:

Contains Short Hold Testing: YES NO
Internal Use: If less than 48 hours - notify lab upon receipt

Standard Lvl 1	CLP-like	HSCA	State Samples Collected In
Standard Lvl 2	DOD	Landfill	NY
Standard Lvl 3	NJ RED	NJ GW	NJ
Standard Lvl 4	NJ Full		PA
Excel Summary	Sample Disposal		WV
Equis	Lab		FL
Custom	Special		other

Data Deliverables:
Standard Lvl 1
Standard Lvl 2
Standard Lvl 3
Standard Lvl 4
Excel Summary
Equis
Custom

EDDS: _____
Format Type: _____

Received By / Company Name: _____

Relinquished By / Company Name: _____

Circle Sample Collector: ALS Tech Client ID: _____

Comments:

3360617
Logged By: SLS
PH: SJB



pleted by Receiving Lab)

360617 of



301 Filling Mill Rd, Suite A
Middletown, PA 17057
P. 717-944-5541

**CHAIN OF CUSTODY/
REQUEST FOR ANALYSIS**

**ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /
SAMPLER. INSTRUCTIONS ON THE BACK.**

COC #: 2 of 2 3360617 of
ALS Quote #:

Client Name: WSP USA		Container Type	CG	AG							Temp Taken By:	Therm ID	WO Temp (°C)
Address: 13530 Duiles Technology Dr Suite 300 Herndon VA		Container Size	40	250							WV Containers 0-6°C		Y N NA
		Preservative	HCl	N/A							Deviations? NO YES		IF YES, list below
Contact: Eric Johnson		Orthophosphate Filtered?	Yes	No	Hexavalent Chromium Filtered?	Yes	No	Receipt Information (completed by Receiving Lab)					
Phone#:		ANALYSIS / METHOD REQUESTED											
Project Name#: Kup Flex Onsite 31405608 010		Enter Number of Containers Per Sample or Field Results Below.											
Bill To: P102839US001		SDWA Sample Type (see key)											
Purchase Order #: RA0084005		Matrix (See bottom of COC)											
TAT <input checked="" type="checkbox"/> Normal-Standard TAT is 10-12 business days. <input type="checkbox"/> Rush-Subject to ALS approval and surcharges.		*G or C											
Date Required: <input type="checkbox"/> Approved?		8070 1,4 Dioxane											
Email? <input type="checkbox"/>		VOCs EPA 8260											

Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time ht./mm	Relinquished By / Company Name	Received By / Company Name	Comments:
1 MW-43	5/19/24	1030	WSP	ALS	
2 MW-42	5/19/24	1105	WSP	ALS	
3 MW-38R	5/19/24	1115	WSP	ALS	
4 MW-09	5/19/24	1535	WSP	ALS	
5 MW-23D	5/19/24	1555	WSP	ALS	
6 MW-100	5/19/24	1215	WSP	ALS	
7 Trip Blank - B	5/19/24		WSP	ALS	
8					
9					
10					

Circle Sample Collector: ALS Tech/Client ID:			Internal Use: If less than 48 hours - notify lab upon receipt		
Name:			Standard Lvl 1	CLP-like	HSCA
Date:			Standard Lvl 2	DOD	Landfill
Time			Standard Lvl 3	NJ RED	NJ GW
			Standard Lvl 4	NJ Full	
			Excel Summary	Sample Disposal	
			Equis	Lab	
			Custom	Special	
			Formal Type		State Samples Collected In
			EDDS:		<input type="checkbox"/> NY <input type="checkbox"/> NJ <input type="checkbox"/> PA <input type="checkbox"/> WV <input type="checkbox"/> FL <input type="checkbox"/> other



Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | www.alsglobal.com
 Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 | Fax: 717-944-1430 |

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
 State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343, NJ PA101

Analytical Results Report For

WSP USA Inc.

Project KOP-Flex Onsite 31405608.010
 Workorder 3360620
 Report ID 326223 on 6/4/2024

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on May 20, 2024.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.
 ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):
 Elliott Martynkiewicz - WSP USA Inc.
 Eric Johnson - WSP USA INC

Susan Scherer

Susan Scherer
 Project Coordinator

(ALS Digital Signature)

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.



Sample Summary

<u>Lab ID</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>	<u>Collector</u>	<u>Collection Company</u>
3360620001	RW-1S	Ground Water	05/19/2024 11:25	05/20/2024 19:20	CBC	Collected By Client
3360620002	RW-2S	Ground Water	05/19/2024 11:45	05/20/2024 19:20	CBC	Collected By Client
3360620003	RW-1D	Ground Water	05/19/2024 14:15	05/20/2024 19:20	CBC	Collected By Client



Reference

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136, including but not limited to the following EPA Method reference revisions:
EPA 300.1 Rev. 1.0-1997
EPA 300.0 Rev. 2.1-1993
EPA 353.2 Rev. 2.0-1993
EPA 410.4 Rev. 1.0-1993
EPA 420.4 Rev. 1.0-1993
EPA 365.1 Rev. 2.0-1993
EPA 200.7 Rev. 4.4-1994
EPA 200.8 Rev. 5.4-1994
EPA 245.1 Rev. 3.0-1994
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.



Project KOP-Flex Onsite 31405608.010
Workorder 3360620

Project Notations

Sample Notations

Lab ID **Sample ID**

Result Notations

Notation Ref.

- | | |
|---|--|
| 1 | Bromomethane was recovered above the 20 percent 8260D criteria in the continuing calibration verification associated with this sample. The % drift was reported at 29.86%. Acceptable limits are +/-20%. |
| 2 | Chlorodibromomethane was recovered above the 20 percent 8260D criteria in the continuing calibration verification associated with this sample. The % difference was reported at 20.63%. Acceptable limits are +/-20%. |
| 3 | The surrogate 2-Methylnaphthalene-d10 for method SW846 8270E SIM was outside of control limits. The % Recovery was reported as 178 and the control limits were 29 to 112. This result was reported at a dilution of 20. |
| 4 | 1,1,1,2-Tetrachloroethane was recovered above the 20 percent 8260D criteria in the continuing calibration verification associated with this sample. The % difference was reported at 20.22%. Acceptable limits are +/-20%. |



Detected Results Summary

Client Sample ID RW-1S Collected 05/19/2024 11:25
Lab Sample ID 3360620001 Lab Receipt 05/20/2024 19:20

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	128	ug/L	20.3	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	50.6	ug/L	5.0	SW846 8260D	#
1,1-Dichloroethane	170	ug/L	5.0	SW846 8260D	#
1,1-Dichloroethene	574	ug/L	5.0	SW846 8260D	#
Chloroethane	19.6	ug/L	5.0	SW846 8260D	#



Detected Results Summary

Client Sample ID RW-2S Collected 05/19/2024 11:45
Lab Sample ID 3360620002 Lab Receipt 05/20/2024 19:20

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	27.9	ug/L	10.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	405	ug/L	5.0	SW846 8260D	#
1,1-Dichloroethane	67.8	ug/L	5.0	SW846 8260D	#
1,1-Dichloroethene	406	ug/L	5.0	SW846 8260D	#
Methylene Chloride	5.2	ug/L	5.0	SW846 8260D	#



Detected Results Summary

Client Sample ID RW-1D Collected 05/19/2024 14:15
Lab Sample ID 3360620003 Lab Receipt 05/20/2024 19:20

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	127	ug/L	20.2	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	17.1	ug/L	5.0	SW846 8260D	#
1,1-Dichloroethane	81.2	ug/L	5.0	SW846 8260D	#
1,1-Dichloroethene	329	ug/L	5.0	SW846 8260D	#
Chloroethane	9.3	ug/L	5.0	SW846 8260D	#



Results

Client Sample ID	RW-1S	Collected	05/19/2024 11:25
Lab Sample ID	3360620001	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	128		ug/L	20.3	SW846 8270E SIM	20	05/29/2024 06:59	M1O	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	74.8%	29 – 112	05/23/2024 14:39	
2-Methylnaphthalene-d10	7297-45-2	178*%	29 – 112	05/29/2024 06:59	3
Fluoranthene-d10	93951-69-0	78%	45 – 130	05/23/2024 14:39	
Fluoranthene-d10	93951-69-0	82.3%	45 – 130	05/29/2024 06:59	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	5.0 U	U,4	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,1,1-Trichloroethane	50.6		ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,1,2,2-Tetrachloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,1,2-Trichloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,1-Dichloroethane	170		ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,1-Dichloroethene	574		ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,1-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,2,3-Trichlorobenzene	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,2,3-Trichloropropane	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,2,4-Trichlorobenzene	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,2-Dibromo-3-chloropropane	35.0 U	U	ug/L	35.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,2-Dibromoethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,2-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,2-Dichloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,2-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,3-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,3-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
1,4-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
2,2-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
2-Butanone	50.0 U	U	ug/L	50.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
2-Hexanone	25.0 U	U	ug/L	25.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
4-Methyl-2-Pentanone(MIBK)	25.0 U	U	ug/L	25.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Acetone	50.0 U	U	ug/L	50.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Benzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Bromobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Bromochloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Bromodichloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Bromoform	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Bromomethane	5.0 U	U,1	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Carbon Tetrachloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Chlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Chlorodibromomethane	5.0 U	U,2	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Chloroethane	19.6		ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A



Results

Client Sample ID	RW-1S	Collected	05/19/2024 11:25
Lab Sample ID	3360620001	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloroform	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Chloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
cis-1,2-Dichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
cis-1,3-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Dibromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Dichlorodifluoromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Diisopropyl ether	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Ethylbenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Hexachlorobutadiene	25.0 U	U	ug/L	25.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Methyl t-Butyl Ether	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Methylene Chloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
mp-Xylene	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Naphthalene	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
o-Chlorotoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
o-Xylene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
p-Chlorotoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
p-Isopropyltoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Styrene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Tetrachloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Toluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Total Xylenes	15.0 U	U	ug/L	15.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
trans-1,2-Dichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
trans-1,3-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Trichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Trichlorofluoromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Vinyl Acetate	25.0 U	U	ug/L	25.0	SW846 8260D	5	05/28/2024 15:48	ILY	A
Vinyl Chloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 15:48	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	107%	62 - 133	05/28/2024 15:48	
4-Bromofluorobenzene	460-00-4	104%	79 - 114	05/28/2024 15:48	
Dibromofluoromethane	1868-53-7	103%	78 - 116	05/28/2024 15:48	
Toluene-d8	2037-26-5	102%	76 - 127	05/28/2024 15:48	



Results

Client Sample ID	RW-2S	Collected	05/19/2024 11:45
Lab Sample ID	3360620002	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	27.9		ug/L	10.0	SW846 8270E SIM	10	05/29/2024 07:27	M1O	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	76.4%	29 – 112	05/23/2024 15:08	
2-Methylnaphthalene-d10	7297-45-2	74.3%	29 – 112	05/29/2024 07:27	
Fluoranthene-d10	93951-69-0	88.1%	45 – 130	05/23/2024 15:08	
Fluoranthene-d10	93951-69-0	84.5%	45 – 130	05/29/2024 07:27	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	5.0 U	U,4	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,1,1-Trichloroethane	405		ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,1,2,2-Tetrachloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,1,2-Trichloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,1-Dichloroethane	67.8		ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,1-Dichloroethene	406		ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,1-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,2,3-Trichlorobenzene	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,2,3-Trichloropropane	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,2,4-Trichlorobenzene	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,2-Dibromo-3-chloropropane	35.0 U	U	ug/L	35.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,2-Dibromoethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,2-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,2-Dichloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,2-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,3-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,3-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
1,4-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
2,2-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
2-Butanone	50.0 U	U	ug/L	50.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
2-Hexanone	25.0 U	U	ug/L	25.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
4-Methyl-2-Pentanone(MIBK)	25.0 U	U	ug/L	25.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Acetone	50.0 U	U	ug/L	50.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Benzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Bromobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Bromochloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Bromodichloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Bromoform	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Bromomethane	5.0 U	U,1	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Carbon Tetrachloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Chlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Chlorodibromomethane	5.0 U	U,2	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Chloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A



Results

Client Sample ID	RW-2S	Collected	05/19/2024 11:45
Lab Sample ID	3360620002	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloroform	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Chloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
cis-1,2-Dichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
cis-1,3-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Dibromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Dichlorodifluoromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Diisopropyl ether	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Ethylbenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Hexachlorobutadiene	25.0 U	U	ug/L	25.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Methyl t-Butyl Ether	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Methylene Chloride	5.2		ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
mp-Xylene	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Naphthalene	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
o-Chlorotoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
o-Xylene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
p-Chlorotoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
p-Isopropyltoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Styrene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Tetrachloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Toluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Total Xylenes	15.0 U	U	ug/L	15.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
trans-1,2-Dichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
trans-1,3-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Trichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Trichlorofluoromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Vinyl Acetate	25.0 U	U	ug/L	25.0	SW846 8260D	5	05/28/2024 16:08	ILY	A
Vinyl Chloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:08	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	104%	62 - 133	05/28/2024 16:08	
4-Bromofluorobenzene	460-00-4	102%	79 - 114	05/28/2024 16:08	
Dibromofluoromethane	1868-53-7	104%	78 - 116	05/28/2024 16:08	
Toluene-d8	2037-26-5	98.8%	76 - 127	05/28/2024 16:08	



Results

Client Sample ID	RW-1D	Collected	05/19/2024 14:15
Lab Sample ID	3360620003	Lab Receipt	05/20/2024 19:20

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	127		ug/L	20.2	SW846 8270E SIM	20	06/03/2024 12:11	S7M	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	57%	29 – 112	05/29/2024 07:54	
2-Methylnaphthalene-d10	7297-45-2	0*%	29 – 112	06/03/2024 12:11	
Fluoranthene-d10	93951-69-0	67.6%	45 – 130	05/29/2024 07:54	
Fluoranthene-d10	93951-69-0	80.8%	45 – 130	06/03/2024 12:11	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	5.0 U	U,4	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,1,1-Trichloroethane	17.1		ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,1,2,2-Tetrachloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,1,2-Trichloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,1-Dichloroethane	81.2		ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,1-Dichloroethene	329		ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,1-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,2,3-Trichlorobenzene	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,2,3-Trichloropropane	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,2,4-Trichlorobenzene	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,2-Dibromo-3-chloropropane	35.0 U	U	ug/L	35.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,2-Dibromoethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,2-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,2-Dichloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,2-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,3-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,3-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
1,4-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
2,2-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
2-Butanone	50.0 U	U	ug/L	50.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
2-Hexanone	25.0 U	U	ug/L	25.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
4-Methyl-2-Pentanone(MIBK)	25.0 U	U	ug/L	25.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Acetone	50.0 U	U	ug/L	50.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Benzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Bromobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Bromochloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Bromodichloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Bromoform	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Bromomethane	5.0 U	U,1	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Carbon Tetrachloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Chlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Chlorodibromomethane	5.0 U	U,2	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Chloroethane	9.3		ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A



Results

Client Sample ID	RW-1D	Collected	05/19/2024 14:15
Lab Sample ID	3360620003	Lab Receipt	05/20/2024 19:20

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloroform	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Chloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
cis-1,2-Dichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
cis-1,3-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Dibromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Dichlorodifluoromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Diisopropyl ether	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Ethylbenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Hexachlorobutadiene	25.0 U	U	ug/L	25.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Methyl t-Butyl Ether	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Methylene Chloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
mp-Xylene	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Naphthalene	10.0 U	U	ug/L	10.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
o-Chlorotoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
o-Xylene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
p-Chlorotoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
p-Isopropyltoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Styrene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Tetrachloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Toluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Total Xylenes	15.0 U	U	ug/L	15.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
trans-1,2-Dichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
trans-1,3-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Trichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Trichlorofluoromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Vinyl Acetate	25.0 U	U	ug/L	25.0	SW846 8260D	5	05/28/2024 16:28	ILY	A
Vinyl Chloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	05/28/2024 16:28	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	105%	62 - 133	05/28/2024 16:28	
4-Bromofluorobenzene	460-00-4	92.3%	79 - 114	05/28/2024 16:28	
Dibromofluoromethane	1868-53-7	103%	78 - 116	05/28/2024 16:28	
Toluene-d8	2037-26-5	97.6%	76 - 127	05/28/2024 16:28	



Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3360620001	RW-1S	SW846 8270E SIM	SW846 3510C	
		SW846 8260D	N/A	
3360620002	RW-2S	SW846 8270E SIM	SW846 3510C	
		SW846 8260D	N/A	
3360620003	RW-1D	SW846 8270E SIM	SW846 3510C	
		SW846 8260D	N/A	



QUALITY CONTROL SAMPLES

SEMIVOLATILE SIM

QC Batch			
QC Batch	1207715	Prep Method	SW846 3510C
Date	05/22/2024 11:25	Analysis Method	SW846 8270E SIM
Tech.	MJA		

Associated Samples		
3360620001	3360620002	3360620003

Matrix Spike 3828957 (MS) 3360617004 (non-Project Sample) For QC Batch 1207715

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,4-Dioxane	123-91-1	MS	4.60	4.30	1	NC	22 - 75		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	MS	0.79	1	77.5	29 - 112	
Fluoranthene-d10	93951-69-0	MS	0.94	1	92.5	45 - 130	

Duplicate 3828958 (DUP) 3360617007 (non-Project Sample) For QC Batch 1207715

****NOTE - The Original Result and Duplicate Result shown below are raw results and are only used for the purpose of calculating Sample Duplicate percent recoveries. This result is not a final value and cannot be used as such.

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Qualifiers
1,4-Dioxane	123-91-1	DUP	404.3070	396.4130	RPD <u>1.97</u> (Max-30)

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	DUP	5.80	1	562*	29 - 112	
2-Methylnaphthalene-d10	7297-45-2	DUP	0.82	1	78.7	29 - 112	
Fluoranthene-d10	93951-69-0	DUP	1	1	99	45 - 130	

Method Blank 3828955 (MB) Created on 05/22/2024 06:55 For QC Batch 1207715

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
1,4-Dioxane	123-91-1	BLK	1.0	ug/L	1.0	U



QUALITY CONTROL SAMPLES

SEMIVOLATILE SIM (cont.)

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnapthalene-d10	7297-45-2	BLK	0.74	1	73.9	29 - 112	
Fluoranthene-d10	93951-69-0	BLK	0.88	1	88.1	45 - 130	

Lab Control Standard 3828956 (LCS) Created on 05/22/2024 06:55 For QC Batch 1207715

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,4-Dioxane	123-91-1	LCS	0.37		1	37.3	22 - 75		U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnapthalene-d10	7297-45-2	LCS	0.86	1	86	29 - 112	
Fluoranthene-d10	93951-69-0	LCS	0.97	1	97	45 - 130	



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS

QC Batch			
QC Batch	1209901	Prep Method	N/A
Date	N/A	Analysis Method	SW846 8260D
Tech.			

Associated Samples		
3360620001	3360620002	3360620003

Matrix Spike 3831044 (MS) 3360622014 (non-Project Sample) For QC Batch 1209901

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3831045 (MSD) 3360622014 (non-Project Sample) For QC Batch 1209901

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	MS	22.90	0	20	114	78 - 121		
1,1,1,2-Tetrachloroethane	630-20-6	MSD	22.50	0	20	112	78 - 121	RPD	1.69 (Max-16)
1,1,1-Trichloroethane	71-55-6	MS	25	2.50	20	112	66 - 130		
1,1,1-Trichloroethane	71-55-6	MSD	24	2.50	20	107	66 - 130	RPD	4.06 (Max-20)
1,1,2,2-Tetrachloroethane	79-34-5	MS	17.80	0	20	89.1	74 - 135		
1,1,2,2-Tetrachloroethane	79-34-5	MSD	17	0	20	85.2	74 - 135	RPD	4.46 (Max-16)
1,1,2-Trichloroethane	79-00-5	MS	19	0	20	94.8	82 - 126		
1,1,2-Trichloroethane	79-00-5	MSD	19.20	0	20	96.1	82 - 126	RPD	1.37 (Max-15)
1,1-Dichloroethane	75-34-3	MS	23.70	5	20	93.5	78 - 124		
1,1-Dichloroethane	75-34-3	MSD	22.80	5	20	89.3	78 - 124	RPD	3.65 (Max-15)
1,1-Dichloroethene	75-35-4	MS	38.30	19.50	20	93.7	63 - 128		
1,1-Dichloroethene	75-35-4	MSD	35.80	19.50	20	81.4	63 - 128	RPD	6.65 (Max-21)
1,1-Dichloropropene	563-58-6	MS	20.90	0	20	104	76 - 126		
1,1-Dichloropropene	563-58-6	MSD	20.10	0	20	101	76 - 126	RPD	3.68 (Max-16)
1,2,3-Trichlorobenzene	87-61-6	MS	18.70	0	20	93.3	61 - 126		
1,2,3-Trichlorobenzene	87-61-6	MSD	18.30	0	20	91.3	61 - 126	RPD	2.10 (Max-36)
1,2,3-Trichloropropane	96-18-4	MS	18.90	0	20	94.4	75 - 132		
1,2,3-Trichloropropane	96-18-4	MSD	18.10	0	20	90.5	75 - 132	RPD	4.31 (Max-19)
1,2,4-Trichlorobenzene	120-82-1	MS	19.30	0	20	96.7	67 - 123		
1,2,4-Trichlorobenzene	120-82-1	MSD	18.50	0	20	92.6	67 - 123	RPD	4.41 (Max-22)
1,2-Dibromo-3-chloropropane	96-12-8	MS	16.40	0	20	82.2	59 - 133		
1,2-Dibromo-3-chloropropane	96-12-8	MSD	16.40	0	20	82	59 - 133	RPD	0.31 (Max-26)
1,2-Dibromoethane	106-93-4	MS	20.30	0	20	101	80 - 124		
1,2-Dibromoethane	106-93-4	MSD	20.30	0	20	102	80 - 124	RPD	0.31 (Max-19)
1,2-Dichlorobenzene	95-50-1	MS	19.20	0	20	96.2	82 - 118		
1,2-Dichlorobenzene	95-50-1	MSD	18.30	0	20	91.5	82 - 118	RPD	5.01 (Max-15)
1,2-Dichloroethane	107-06-2	MS	20.70	0	20	104	70 - 133		
1,2-Dichloroethane	107-06-2	MSD	20.70	0	20	103	70 - 133	RPD	0.38 (Max-19)
1,2-Dichloropropane	78-87-5	MS	18.10	0	20	90.5	81 - 127		
1,2-Dichloropropane	78-87-5	MSD	17.70	0	20	88.4	81 - 127	RPD	2.35 (Max-15)
1,3-Dichlorobenzene	541-73-1	MS	18.90	0	20	94.6	81 - 118		
1,3-Dichlorobenzene	541-73-1	MSD	18.10	0	20	90.5	81 - 118	RPD	4.44 (Max-16)
1,3-Dichloropropane	142-28-9	MS	19	0	20	95.1	82 - 126		
1,3-Dichloropropane	142-28-9	MSD	19	0	20	95	82 - 126	RPD	0.06 (Max-15)
1,4-Dichlorobenzene	106-46-7	MS	19.50	0	20	97.6	81 - 116		



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,4-Dichlorobenzene	106-46-7	MSD	18.60	0	20	93	81 - 116	RPD 4.85 (Max-15)	
2,2-Dichloropropane	594-20-7	MS	19	0	20	95.2	64 - 129		
2,2-Dichloropropane	594-20-7	MSD	18.10	0	20	90.5	64 - 129	RPD 5.13 (Max-18)	
2-Butanone	78-93-3	MS	89.40	0	100	89.4	50 - 152		
2-Butanone	78-93-3	MSD	86.30	0	100	86.3	50 - 152	RPD 3.55 (Max-16)	
2-Hexanone	591-78-6	MS	88.10	0	100	88.1	65 - 154		
2-Hexanone	591-78-6	MSD	87.20	0	100	87.2	65 - 154	RPD 1.02 (Max-17)	
4-Methyl-2-Pentanone(MIBK)	108-10-1	MS	86.50	0	100	86.5	71 - 146		
4-Methyl-2-Pentanone(MIBK)	108-10-1	MSD	87.60	0	100	87.6	71 - 146	RPD 1.27 (Max-16)	
Acetone	67-64-1	MS	82.60	0	100	82.6	40 - 151		
Acetone	67-64-1	MSD	84	0	100	84	40 - 151	RPD 1.70 (Max-40)	
Benzene	71-43-2	MS	20.20	0	20	101	80 - 124		
Benzene	71-43-2	MSD	19.60	0	20	97.8	80 - 124	RPD 3.15 (Max-26)	
Bromobenzene	108-86-1	MS	19.50	0	20	97.4	81 - 119		
Bromobenzene	108-86-1	MSD	18.50	0	20	92.7	81 - 119	RPD 4.90 (Max-17)	
Bromochloromethane	74-97-5	MS	21.90	0	20	110	73 - 117		
Bromochloromethane	74-97-5	MSD	21.50	0	20	107	73 - 117	RPD 1.88 (Max-19)	
Bromodichloromethane	75-27-4	MS	21.20	0	20	106	79 - 126		
Bromodichloromethane	75-27-4	MSD	21	0	20	105	79 - 126	RPD 1.20 (Max-16)	
Bromoform	75-25-2	MS	18.50	0	20	92.5	70 - 123		
Bromoform	75-25-2	MSD	18	0	20	89.9	70 - 123	RPD 2.89 (Max-16)	
Bromomethane	74-83-9	MS	15.60	0	20	78.1	45 - 148		
Bromomethane	74-83-9	MSD	18	0	20	90.2	45 - 148	RPD 14.40 (Max-26)	
Carbon Tetrachloride	56-23-5	MS	24.40	0	20	122	62 - 132		
Carbon Tetrachloride	56-23-5	MSD	23	0	20	115	62 - 132	RPD 6.22 (Max-17)	
Chlorobenzene	108-90-7	MS	20.70	0	20	103	85 - 117		
Chlorobenzene	108-90-7	MSD	20.10	0	20	100	85 - 117	RPD 2.84 (Max-15)	
Chlorodibromomethane	124-48-1	MS	21.70	0	20	109	77 - 122		
Chlorodibromomethane	124-48-1	MSD	21.60	0	20	108	77 - 122	RPD 0.54 (Max-15)	
Chloroethane	75-00-3	MS	18.50	0	20	92.3	51 - 142		
Chloroethane	75-00-3	MSD	17.70	0	20	88.3	51 - 142	RPD 4.44 (Max-24)	
Chloroform	67-66-3	MS	20.90	0	20	105	78 - 122		
Chloroform	67-66-3	MSD	19.90	0	20	99.7	78 - 122	RPD 4.82 (Max-16)	
Chloromethane	74-87-3	MS	14.30	0	20	71.6	38 - 156		
Chloromethane	74-87-3	MSD	13.50	0	20	67.5	38 - 156	RPD 5.89 (Max-27)	
cis-1,2-Dichloroethene	156-59-2	MS	21	0	20	105	78 - 125		
cis-1,2-Dichloroethene	156-59-2	MSD	19.40	0	20	97.1	78 - 125	RPD 7.87 (Max-21)	
cis-1,3-Dichloropropene	10061-01-5	MS	18.70	0	20	93.6	81 - 121		
cis-1,3-Dichloropropene	10061-01-5	MSD	18.70	0	20	93.6	81 - 121	RPD 0.01 (Max-16)	
Dibromomethane	74-95-3	MS	19.40	0	20	96.9	81 - 125		
Dibromomethane	74-95-3	MSD	19.20	0	20	96	81 - 125	RPD 0.92 (Max-16)	
Dichlorodifluoromethane	75-71-8	MS	21.30	0	20	107	17 - 166		
Dichlorodifluoromethane	75-71-8	MSD	19.70	0	20	98.6	17 - 166	RPD 7.82 (Max-24)	
Diisopropyl ether	108-20-3	MS	17.10	0	20	85.4	74 - 131		
Diisopropyl ether	108-20-3	MSD	16.90	0	20	84.4	74 - 131	RPD 1.18 (Max-15)	
Ethylbenzene	100-41-4	MS	21.20	0	20	106	80 - 124		
Ethylbenzene	100-41-4	MSD	20.50	0	20	103	80 - 124	RPD 3.02 (Max-19)	
Hexachlorobutadiene	87-68-3	MS	20.40	0	20	102	55 - 128		
Hexachlorobutadiene	87-68-3	MSD	20.10	0	20	100	55 - 128	RPD 1.62 (Max-35)	



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Methyl t-Butyl Ether	1634-04-4	MS	21.10	1.20	20	99.5	69 - 115		
Methyl t-Butyl Ether	1634-04-4	MSD	21	1.20	20	99.2	69 - 115	RPD	0.27 (Max-20)
Methylene Chloride	75-09-2	MS	19.20	0	20	96.1	76 - 121		
Methylene Chloride	75-09-2	MSD	18.80	0	20	93.8	76 - 121	RPD	2.50 (Max-17)
mp-Xylene	108383/106423	MS	42.70	0	40	107	79 - 125		
mp-Xylene	108383/106423	MSD	42	0	40	105	79 - 125	RPD	1.63 (Max-21)
Naphthalene	91-20-3	MS	19.50	0	20	97.7	56 - 134		
Naphthalene	91-20-3	MSD	18.20	0	20	91	56 - 134	RPD	7.17 (Max-40)
o-Chlorotoluene	95-49-8	MS	18.80	0	20	94.1	78 - 126		
o-Chlorotoluene	95-49-8	MSD	17.70	0	20	88.5	78 - 126	RPD	6.15 (Max-17)
o-Xylene	95-47-6	MS	20.10	0	20	100	79 - 124		
o-Xylene	95-47-6	MSD	19.70	0	20	98.7	79 - 124	RPD	1.61 (Max-19)
p-Chlorotoluene	106-43-4	MS	18	0	20	90.2	78 - 125		
p-Chlorotoluene	106-43-4	MSD	17	0	20	85.2	78 - 125	RPD	5.62 (Max-16)
p-Isopropyltoluene	99-87-6	MS	18.90	0	20	94.5	72 - 123		
p-Isopropyltoluene	99-87-6	MSD	17.80	0	20	88.8	72 - 123	RPD	6.24 (Max-17)
Styrene	100-42-5	MS	19.10	0	20	95.6	79 - 123		
Styrene	100-42-5	MSD	18.30	0	20	91.7	79 - 123	RPD	4.23 (Max-16)
Tetrachloroethene	127-18-4	MS	20.90	0	20	104	72 - 124		
Tetrachloroethene	127-18-4	MSD	19.80	0	20	99	72 - 124	RPD	5.38 (Max-38)
Toluene	108-88-3	MS	20.10	0	20	100	80 - 125		
Toluene	108-88-3	MSD	19.60	0	20	98.2	80 - 125	RPD	2.15 (Max-20)
Total Xylenes	1330-20-7	MS	62.70	0	60	105	79 - 125		
Total Xylenes	1330-20-7	MSD	61.70	0	60	103	79 - 125	RPD	1.62 (Max-35)
trans-1,2-Dichloroethene	156-60-5	MS	19.40	0	20	96.9	71 - 122		
trans-1,2-Dichloroethene	156-60-5	MSD	18.30	0	20	91.6	71 - 122	RPD	5.56 (Max-22)
trans-1,3-Dichloropropene	10061-02-6	MS	19.70	0	20	98.5	78 - 126		
trans-1,3-Dichloropropene	10061-02-6	MSD	19.60	0	20	98.1	78 - 126	RPD	0.46 (Max-18)
Trichloroethene	79-01-6	MS	20.60	0	20	103	77 - 124		
Trichloroethene	79-01-6	MSD	20.10	0	20	100	77 - 124	RPD	2.62 (Max-18)
Trichlorofluoromethane	75-69-4	MS	23.20	0	20	116	38 - 123		
Trichlorofluoromethane	75-69-4	MSD	21.80	0	20	109	38 - 123	RPD	6.32 (Max-23)
Vinyl Acetate	108-05-4	MS	17.10	0	20	85.7	58 - 136		
Vinyl Acetate	108-05-4	MSD	17.20	0	20	86.2	58 - 136	RPD	0.50 (Max-17)
Vinyl Chloride	75-01-4	MS	19	0	20	95.1	27 - 138		
Vinyl Chloride	75-01-4	MSD	17.10	0	20	85.7	27 - 138	RPD	10.30 (Max-40)

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	MS	31.80	30	106	62 - 133	
1,2-Dichloroethane-d4	17060-07-0	MSD	32.60	30	109	62 - 133	
4-Bromofluorobenzene	460-00-4	MS	28.30	30	94.2	79 - 114	
4-Bromofluorobenzene	460-00-4	MSD	29.70	30	99.2	79 - 114	
Dibromofluoromethane	1868-53-7	MS	30.50	30	102	78 - 116	
Dibromofluoromethane	1868-53-7	MSD	31.50	30	105	78 - 116	
Toluene-d8	2037-26-5	MS	28.10	30	93.8	76 - 127	
Toluene-d8	2037-26-5	MSD	30.50	30	102	76 - 127	



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

Method Blank 3831042 (MB) Created on 05/28/2024 10:53 For QC Batch 1209901

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	BLK	1.0 U	ug/L	1.0	U
1,1,1-Trichloroethane	71-55-6	BLK	1.0 U	ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	1.0 U	ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5	BLK	1.0 U	ug/L	1.0	U
1,1-Dichloroethane	75-34-3	BLK	1.0 U	ug/L	1.0	U
1,1-Dichloroethene	75-35-4	BLK	1.0 U	ug/L	1.0	U
1,1-Dichloropropene	563-58-6	BLK	1.0 U	ug/L	1.0	U
1,2,3-Trichlorobenzene	87-61-6	BLK	2.0 U	ug/L	2.0	U
1,2,3-Trichloropropane	96-18-4	BLK	2.0 U	ug/L	2.0	U
1,2,4-Trichlorobenzene	120-82-1	BLK	2.0 U	ug/L	2.0	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	7.0 U	ug/L	7.0	U
1,2-Dibromoethane	106-93-4	BLK	1.0 U	ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	1.0 U	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	1.0 U	ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	1.0 U	ug/L	1.0	U
1,3-Dichlorobenzene	541-73-1	BLK	1.0 U	ug/L	1.0	U
1,3-Dichloropropane	142-28-9	BLK	1.0 U	ug/L	1.0	U
1,4-Dichlorobenzene	106-46-7	BLK	1.0 U	ug/L	1.0	U
2,2-Dichloropropane	594-20-7	BLK	1.0 U	ug/L	1.0	U
2-Butanone	78-93-3	BLK	10.0 U	ug/L	10.0	U
2-Hexanone	591-78-6	BLK	5.0 U	ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	5.0 U	ug/L	5.0	U
Acetone	67-64-1	BLK	10.0 U	ug/L	10.0	U
Benzene	71-43-2	BLK	1.0 U	ug/L	1.0	U
Bromobenzene	108-86-1	BLK	1.0 U	ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	1.0 U	ug/L	1.0	U
Bromodichloromethane	75-27-4	BLK	1.0 U	ug/L	1.0	U
Bromoform	75-25-2	BLK	1.0 U	ug/L	1.0	U
Bromomethane	74-83-9	BLK	1.0 U	ug/L	1.0	U
Carbon Tetrachloride	56-23-5	BLK	1.0 U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	1.0 U	ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	1.0 U	ug/L	1.0	U
Chloroethane	75-00-3	BLK	1.0 U	ug/L	1.0	U
Chloroform	67-66-3	BLK	1.0 U	ug/L	1.0	U
Chloromethane	74-87-3	BLK	1.0 U	ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	1.0 U	ug/L	1.0	U
cis-1,3-Dichloropropene	10061-01-5	BLK	1.0 U	ug/L	1.0	U
Dibromomethane	74-95-3	BLK	1.0 U	ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	1.0 U	ug/L	1.0	U
Diisopropyl ether	108-20-3	BLK	1.0 U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	1.0 U	ug/L	1.0	U
Hexachlorobutadiene	87-68-3	BLK	5.0 U	ug/L	5.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	1.0 U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	1.0 U	ug/L	1.0	U
mp-Xylene	108383/106423	BLK	2.0 U	ug/L	2.0	U



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
Naphthalene	91-20-3	BLK	2.0 U	ug/L	2.0	U
o-Chlorotoluene	95-49-8	BLK	1.0 U	ug/L	1.0	U
o-Xylene	95-47-6	BLK	1.0 U	ug/L	1.0	U
p-Chlorotoluene	106-43-4	BLK	1.0 U	ug/L	1.0	U
p-Isopropyltoluene	99-87-6	BLK	1.0 U	ug/L	1.0	U
Styrene	100-42-5	BLK	1.0 U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	1.0 U	ug/L	1.0	U
Toluene	108-88-3	BLK	1.0 U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	3.0 U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	1.0 U	ug/L	1.0	U
trans-1,3-Dichloropropene	10061-02-6	BLK	1.0 U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	1.0 U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	1.0 U	ug/L	1.0	U
Vinyl Acetate	108-05-4	BLK	5.0 U	ug/L	5.0	U
Vinyl Chloride	75-01-4	BLK	1.0 U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	31.30	30	104	62 - 133	
4-Bromofluorobenzene	460-00-4	BLK	29.40	30	98.1	79 - 114	
Dibromofluoromethane	1868-53-7	BLK	31	30	103	78 - 116	
Toluene-d8	2037-26-5	BLK	30.20	30	101	76 - 127	

Lab Control Standard

3831043 (LCS)

Created on 05/28/2024 10:53

For QC Batch 1209901

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	LCS	22.80		20	114	78 - 121		
1,1,1-Trichloroethane	71-55-6	LCS	20.70		20	104	66 - 130		
1,1,2,2-Tetrachloroethane	79-34-5	LCS	18.90		20	94.6	74 - 135		
1,1,2-Trichloroethane	79-00-5	LCS	19.40		20	96.8	82 - 126		
1,1-Dichloroethane	75-34-3	LCS	18.40		20	91.9	78 - 124		
1,1-Dichloroethene	75-35-4	LCS	18.50		20	92.5	63 - 128		
1,1-Dichloropropene	563-58-6	LCS	19.10		20	95.7	76 - 126		
1,2,3-Trichlorobenzene	87-61-6	LCS	21.10		20	106	61 - 126		
1,2,3-Trichloropropane	96-18-4	LCS	20.20		20	101	75 - 132		
1,2,4-Trichlorobenzene	120-82-1	LCS	21.80		20	109	67 - 123		
1,2-Dibromo-3-chloropropane	96-12-8	LCS	17.60		20	88.1	59 - 133		
1,2-Dibromoethane	106-93-4	LCS	21		20	105	80 - 124		
1,2-Dichlorobenzene	95-50-1	LCS	20.60		20	103	82 - 118		
1,2-Dichloroethane	107-06-2	LCS	20.30		20	102	70 - 133		
1,2-Dichloropropane	78-87-5	LCS	17.60		20	87.8	81 - 127		
1,3-Dichlorobenzene	541-73-1	LCS	20.70		20	104	81 - 118		
1,3-Dichloropropane	142-28-9	LCS	19.50		20	97.4	82 - 126		



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,4-Dichlorobenzene	106-46-7	LCS	21.40		20	107	81 - 116		
2,2-Dichloropropane	594-20-7	LCS	21.30		20	106	64 - 129		
2-Butanone	78-93-3	LCS	90.60		100	90.6	50 - 152		
2-Hexanone	591-78-6	LCS	89.40		100	89.4	65 - 154		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	87.90		100	87.9	71 - 146		
Acetone	67-64-1	LCS	92.10		100	92.1	40 - 151		
Benzene	71-43-2	LCS	19.30		20	96.4	80 - 124		
Bromobenzene	108-86-1	LCS	21		20	105	81 - 119		
Bromochloromethane	74-97-5	LCS	21.90		20	109	73 - 117		
Bromodichloromethane	75-27-4	LCS	20.60		20	103	79 - 126		
Bromoform	75-25-2	LCS	20		20	99.8	70 - 123		
Bromomethane	74-83-9	LCS	21.20		20	106	45 - 148		
Carbon Tetrachloride	56-23-5	LCS	21.30		20	106	62 - 132		
Chlorobenzene	108-90-7	LCS	20.60		20	103	85 - 117		
Chlorodibromomethane	124-48-1	LCS	22.10		20	110	77 - 122		
Chloroethane	75-00-3	LCS	14.20		20	71.2	51 - 142		
Chloroform	67-66-3	LCS	20		20	100	78 - 122		
Chloromethane	74-87-3	LCS	9.10		20	45.5	38 - 156		
cis-1,2-Dichloroethene	156-59-2	LCS	18.50		20	92.3	78 - 125		
cis-1,3-Dichloropropene	10061-01-5	LCS	19.70		20	98.7	81 - 121		
Dibromomethane	74-95-3	LCS	19.30		20	96.5	81 - 125		
Dichlorodifluoromethane	75-71-8	LCS	7.50		20	37.4	17 - 166		
Diisopropyl ether	108-20-3	LCS	16.80		20	83.9	74 - 131		
Ethylbenzene	100-41-4	LCS	20.70		20	104	80 - 124		
Hexachlorobutadiene	87-68-3	LCS	23.80		20	119	55 - 128		
Methyl t-Butyl Ether	1634-04-4	LCS	20.20		20	101	69 - 115		
Methylene Chloride	75-09-2	LCS	18.50		20	92.3	76 - 121		
mp-Xylene	108383/106423	LCS	42.10		40	105	79 - 125		
Naphthalene	91-20-3	LCS	19.90		20	99.6	56 - 134		
o-Chlorotoluene	95-49-8	LCS	19.30		20	96.5	78 - 126		
o-Xylene	95-47-6	LCS	20		20	100	79 - 124		
p-Chlorotoluene	106-43-4	LCS	19.30		20	96.6	78 - 125		
p-Isopropyltoluene	99-87-6	LCS	19.90		20	99.6	72 - 123		
Styrene	100-42-5	LCS	20.40		20	102	79 - 123		
Tetrachloroethene	127-18-4	LCS	21		20	105	72 - 124		
Toluene	108-88-3	LCS	19.80		20	99	80 - 125		
Total Xylenes	1330-20-7	LCS	62.10		60	104	79 - 125		
trans-1,2-Dichloroethene	156-60-5	LCS	18.30		20	91.4	71 - 122		
trans-1,3-Dichloropropene	10061-02-6	LCS	20.90		20	105	78 - 126		
Trichloroethene	79-01-6	LCS	19.50		20	97.3	77 - 124		
Trichlorofluoromethane	75-69-4	LCS	19.10		20	95.5	38 - 123		
Vinyl Acetate	108-05-4	LCS	20.10		20	100	58 - 136		
Vinyl Chloride	75-01-4	LCS	12.60		20	62.9	27 - 138		



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

SURROGATES

<u>Compound</u>	<u>CAS No</u>		<u>Result</u> <u>(ug/L)</u>	<u>Expected</u> <u>(ug/L)</u>	<u>Rec.</u> <u>(%)</u>	<u>Limits (%)</u>	<u>Qualifiers</u>
1,2-Dichloroethane-d4	17060-07-0	LCS	32.70	30	109	62 - 133	
4-Bromofluorobenzene	460-00-4	LCS	31.40	30	105	79 - 114	
Dibromofluoromethane	1868-53-7	LCS	31.20	30	104	78 - 116	
Toluene-d8	2037-26-5	LCS	30.10	30	100	76 - 127	



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3360620001	RW-1S	SW846 3510C	1207715	05/22/2024 11:25	MJA	SW846 8270E SIM	1208566
		N/A	N/A	N/A		SW846 8260D	1209901
3360620002	RW-2S	SW846 3510C	1207715	05/22/2024 11:25	MJA	SW846 8270E SIM	1208566
		N/A	N/A	N/A		SW846 8260D	1209901
3360620003	RW-1D	SW846 3510C	1207715	05/22/2024 11:25	MJA	SW846 8270E SIM	1208566
		SW846 3510C	1207715	05/22/2024 11:25	MJA	SW846 8270E SIM	1211483
		N/A	N/A	N/A		SW846 8260D	1209901



301 Filling Mill Rd, Suite A
Middletown, PA 17057
P. 717-944-5541

**CHAIN OF CUSTODY/
REQUEST FOR ANALYSIS**
ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /
SAMPLER. INSTRUCTIONS ON THE BACK.

3360620
Logged By: SLS
PH: SJB

COC1
ALSC

Client Name: WSP USA
Address: 13530 Dulles Technology Dr
Suite 300
Herndon VA 20171

Contact: Eric Johnson
Phone#: 31405608019
Project Name#: KOP-Flex Onsite 31405608019
Bill To: P102839005001
Purchase Order #: P100839005001

Normal-Standard TAT is 10-12 business days.
 Rush-Subject to ALS approval and surcharges.

Date Required: _____ Approved?
Email?

Container Type: CG AG
Container Size: 40 GAL 350
Preservative: HCL None

Orthophosphate Filtered? Yes No Hexavalent Chromium Filtered? Yes No

ANALYSIS / METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	SDWA Sample Type (see key)	*G or C	**Matrix (See bottom of COC)	Enter Number of Containers Per Sample or Field Results Below.
1 RW-1S	5/19/24	1125	G6wDX	DX	VOCs: EPA 816D 8370 1,4 Dioxane	
2 RW-2S	5/19/24	1145	G6wDX	DX		
3 RW-1D	5/19/24	1415	G6wDX	DX		
4 RW-2P						
5						
6						
7						
8						
9						
10						

Temp By: [Signature] WO Temp (°C) 18.5 Therm ID: 871
WO Temp (°C) Y N NA
Deviations? NO YES
If YES, list below

Receipt Info Completed By: [Signature]
Cooler Custody Seal Intact Y N NA
Sample Custody Seal Intact Y N NA
Received on Ice Y N NA
Cooler & Samples Intact Y N NA
Correct Containers Provided Y N NA
Sample Label/COC Agree Y N NA
Adequate Sample Volumes Y N NA
CR6 Samples Filtered Y N NA
OP Samples Filtered Y N NA
VOA Trip Blank Y N NA
MIs 4 Days? Y N NA
Rad Screen (uCi) Y N NA
Courier/Tracking #: _____

SDWA Compliance Y N
PWSID Y N NA
WV Containers 0-6°C Y N NA

Rad Screen (uCi) _____
New Source? Y N
New Source Contact: _____

PWS Contact: _____ PWS Phone #: _____

SDWA Sample Type Key: D=Distribution E=Entry Point
R=Raw P=Plant C=Check S=Special A=Annual Startup

Client contact: _____ (Date/Fac)

Circle Sample Collector: ALS Tech Client ID: _____

Name: _____ Relinquished By / Company Name: [Signature] / ALS
Date: 5/20/24 1555
Date: 5/20/24 1555
Date: 5/20/24 1555

Received By / Company Name: [Signature] / ALS

Standard Lvl 1 CLP-like HSCA
Standard Lvl 2 DOD Landfill
Standard Lvl 3 NJ RED NJ GW
Standard Lvl 4 NJ Full

Excel Summary Sample Disposal
Equis Lab
Custom Special

State Samples Collected In NY NJ PA WV FL other

Contains Short Hold Testing YES NO
Internal Use: If less than 48 hours - notify lab upon receipt

Comments:

ALS SHIPPING ADDRESS: 301 Filling Mill Road, Suite A, Middletown, PA 17057
*G-Grab C=Composite **Matrix - A=Air D=Drinking Water GVE=Groundwater O=Oil LW=Liquid Waste S=Solid/Soil/Sludge SW=Surface Water WIP=Wipe WW=Wastewater
Rev 07 06 2023



Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | www.alsglobal.com
 Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 | Fax: 717-944-1430 |

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
 State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343, NJ PA101

Analytical Results Report For

WSP USA Inc.

Project [KOP-Flex Onsite 31405608.010](#)
 Workorder [3364482](#)
 Report ID [331416 on 6/25/2024](#)

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Jun 14, 2024.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.
 ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):
 Elliott Martynkiewicz - WSP USA Inc.
 Eric Johnson - WSP USA INC

Susan Scherer

Susan Scherer
 Project Coordinator

(ALS Digital Signature)

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.



Sample Summary

<u>Lab ID</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>	<u>Collector</u>	<u>Collection Company</u>
3364482001	MW-39	Ground Water	06/12/2024 14:50	06/14/2024 08:45		WSP USA Inc.



Reference

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136, including but not limited to the following EPA Method reference revisions:
EPA 300.1 Rev. 1.0-1997
EPA 300.0 Rev. 2.1-1993
EPA 353.2 Rev. 2.0-1993
EPA 410.4 Rev. 1.0-1993
EPA 420.4 Rev. 1.0-1993
EPA 365.1 Rev. 2.0-1993
EPA 200.7 Rev. 4.4-1994
EPA 200.8 Rev. 5.4-1994
EPA 245.1 Rev. 3.0-1994
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.



Project KOP-Flex Onsite 31405608.010
Workorder 3364482

Project Notations

Sample Notations

Lab ID **Sample ID**

Result Notations

Notation Ref.

1 Bromomethane recovery from the 8260D calibration verification standard was 122%.
Control limits are 80 to 120%.

Project KOP-Flex Onsite 31405608.010

Workorder 3364482



Detected Results Summary

Not applicable for this WO.



Results

Client Sample ID	MW-39	Collected	06/12/2024 14:50
Lab Sample ID	3364482001	Lab Receipt	06/14/2024 08:45

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	1.0 U	U	ug/L	1.0	SW846 8270E SIM	1	06/23/2024 02:38	M1O	C

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	84.3%	29 - 112	06/23/2024 02:38	
Fluoranthene-d10	93951-69-0	93.8%	45 - 130	06/23/2024 02:38	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Bromomethane	1.0 U	U,1	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A



Results

Client Sample ID	MW-39	Collected	06/12/2024 14:50
Lab Sample ID	3364482001	Lab Receipt	06/14/2024 08:45

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	06/22/2024 14:50	TMP	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	06/22/2024 14:50	TMP	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	105%	62 - 133	06/22/2024 14:50	
4-Bromofluorobenzene	460-00-4	94.6%	79 - 114	06/22/2024 14:50	
Dibromofluoromethane	1868-53-7	97.8%	78 - 116	06/22/2024 14:50	
Toluene-d8	2037-26-5	96.5%	76 - 127	06/22/2024 14:50	



Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3364482001	MW-39	SW846 8270E SIM	SW846 3510C	
		SW846 8260D	N/A	



QUALITY CONTROL SAMPLES

SEMIVOLATILE SIM

QC Batch			
QC Batch	1224338	Prep Method	SW846 3510C
Date	06/19/2024 16:10	Analysis Method	SW846 8270E SIM
Tech.	BMP		

Associated Samples
 3364482001

Matrix Spike 3841681 (MS) 3364481002 (non-Project Sample) For QC Batch 1224338

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,4-Dioxane	123-91-1	MS	33.90	30.20	1	NC	22 - 75		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	MS	0.83	1	82.6	29 - 112	
Fluoranthene-d10	93951-69-0	MS	0.91	1	91.1	45 - 130	

Method Blank 3841679 (MB) Created on 06/19/2024 14:34 For QC Batch 1224338

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
1,4-Dioxane	123-91-1	BLK	1.0	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	BLK	0.72	1	72.2	29 - 112	
Fluoranthene-d10	93951-69-0	BLK	0.90	1	89.9	45 - 130	

Lab Control Standard 3841680 (LCS) Created on 06/19/2024 14:34 For QC Batch 1224338

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,4-Dioxane	123-91-1	LCS	0.57		1	57.5	22 - 75		U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	LCS	0.75	1	74.6	29 - 112	



QUALITY CONTROL SAMPLES

SEMIVOLATILE SIM (cont.)

SURROGATES

<u>Compound</u>	<u>CAS No</u>		<u>Result</u> <u>(ug/L)</u>	<u>Expected</u> <u>(ug/L)</u>	<u>Rec.</u> <u>(%)</u>	<u>Limits (%)</u>	<u>Qualifiers</u>
Fluoranthene-d10	93951-69-0	LCS	0.95	1	95.1	45 - 130	



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS

QC Batch			
QC Batch	1228213	Prep Method	N/A
Date	N/A	Analysis Method	SW846 8260D
Tech.			

Associated Samples
3364482001

Matrix Spike 3843099 (MS) 3364169005 (non-Project Sample) For QC Batch 1228213

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3843100 (MSD) 3364169005 (non-Project Sample) For QC Batch 1228213

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	MS	19.80	0	20	98.8	78 - 121		
1,1,1,2-Tetrachloroethane	630-20-6	MSD	18.30	0	20	91.6	78 - 121	RPD <u>7.55</u>	(Max-16)
1,1,1-Trichloroethane	71-55-6	MS	20.80	0	20	104	66 - 130		
1,1,1-Trichloroethane	71-55-6	MSD	18.40	0	20	91.9	66 - 130	RPD <u>12.60</u>	(Max-20)
1,1,2,2-Tetrachloroethane	79-34-5	MS	23.70	0	20	118	74 - 135		
1,1,2,2-Tetrachloroethane	79-34-5	MSD	21.10	0	20	105	74 - 135	RPD <u>11.60</u>	(Max-16)
1,1,2-Trichloroethane	79-00-5	MS	20.90	0	20	105	82 - 126		
1,1,2-Trichloroethane	79-00-5	MSD	19.60	0	20	98.1	82 - 126	RPD <u>6.54</u>	(Max-15)
1,1-Dichloroethane	75-34-3	MS	21.20	0	20	106	78 - 124		
1,1-Dichloroethane	75-34-3	MSD	18.60	0	20	93.1	78 - 124	RPD <u>12.70</u>	(Max-15)
1,1-Dichloroethene	75-35-4	MS	20.80	0	20	104	63 - 128		
1,1-Dichloroethene	75-35-4	MSD	18.60	0	20	93.2	63 - 128	RPD <u>10.90</u>	(Max-21)
1,1-Dichloropropene	563-58-6	MS	21	0	20	105	76 - 126		
1,1-Dichloropropene	563-58-6	MSD	18.90	0	20	94.3	76 - 126	RPD <u>10.90</u>	(Max-16)
1,2,3-Trichlorobenzene	87-61-6	MS	21	0	20	105	61 - 126		
1,2,3-Trichlorobenzene	87-61-6	MSD	18.10	0	20	90.7	61 - 126	RPD <u>14.70</u>	(Max-36)
1,2,3-Trichloropropane	96-18-4	MS	22.90	0	20	115	75 - 132		
1,2,3-Trichloropropane	96-18-4	MSD	20.60	0	20	103	75 - 132	RPD <u>10.60</u>	(Max-19)
1,2,4-Trichlorobenzene	120-82-1	MS	21.20	0	20	106	67 - 123		
1,2,4-Trichlorobenzene	120-82-1	MSD	19	0	20	95.1	67 - 123	RPD <u>10.90</u>	(Max-22)
1,2-Dibromo-3-chloropropane	96-12-8	MS	18.80	0	20	94	59 - 133		
1,2-Dibromo-3-chloropropane	96-12-8	MSD	18.20	0	20	91.2	59 - 133	RPD <u>3.06</u>	(Max-26)
1,2-Dibromoethane	106-93-4	MS	19.30	0	20	96.5	80 - 124		
1,2-Dibromoethane	106-93-4	MSD	18.10	0	20	90.3	80 - 124	RPD <u>6.65</u>	(Max-19)
1,2-Dichlorobenzene	95-50-1	MS	21.80	0	20	109	82 - 118		
1,2-Dichlorobenzene	95-50-1	MSD	19.80	0	20	99	82 - 118	RPD <u>9.80</u>	(Max-15)
1,2-Dichloroethane	107-06-2	MS	20.90	0	20	104	70 - 133		
1,2-Dichloroethane	107-06-2	MSD	18.60	0	20	93.1	70 - 133	RPD <u>11.40</u>	(Max-19)
1,2-Dichloropropane	78-87-5	MS	22.20	0	20	111	81 - 127		
1,2-Dichloropropane	78-87-5	MSD	19.90	0	20	99.5	81 - 127	RPD <u>10.80</u>	(Max-15)
1,3-Dichlorobenzene	541-73-1	MS	22	0	20	110	81 - 118		
1,3-Dichlorobenzene	541-73-1	MSD	19.60	0	20	98.1	81 - 118	RPD <u>11.20</u>	(Max-16)
1,3-Dichloropropane	142-28-9	MS	20.30	0	20	102	82 - 126		
1,3-Dichloropropane	142-28-9	MSD	19.30	0	20	96.5	82 - 126	RPD <u>5.11</u>	(Max-15)
1,4-Dichlorobenzene	106-46-7	MS	21.60	0	20	108	81 - 116		



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,4-Dichlorobenzene	106-46-7	MSD	19.60	0	20	98.1	81 - 116	RPD <u>9.68</u> (Max-15)	
2,2-Dichloropropane	594-20-7	MS	18.40	0	20	92.2	64 - 129		
2,2-Dichloropropane	594-20-7	MSD	16.80	0	20	84	64 - 129	RPD <u>9.32</u> (Max-18)	
2-Butanone	78-93-3	MS	111	0	100	111	50 - 152		
2-Butanone	78-93-3	MSD	99.10	0	100	99.1	50 - 152	RPD <u>11.10</u> (Max-16)	
2-Hexanone	591-78-6	MS	114	0	100	114	65 - 154		
2-Hexanone	591-78-6	MSD	107	0	100	107	65 - 154	RPD <u>6.21</u> (Max-17)	
4-Methyl-2-Pentanone(MIBK)	108-10-1	MS	113	0	100	113	71 - 146		
4-Methyl-2-Pentanone(MIBK)	108-10-1	MSD	107	0	100	107	71 - 146	RPD <u>5.92</u> (Max-16)	
Acetone	67-64-1	MS	91.10	0	100	91.1	40 - 151		
Acetone	67-64-1	MSD	82.70	0	100	82.7	40 - 151	RPD <u>9.66</u> (Max-40)	
Benzene	71-43-2	MS	21	0	20	105	80 - 124		
Benzene	71-43-2	MSD	18.70	0	20	93.4	80 - 124	RPD <u>11.40</u> (Max-26)	
Bromobenzene	108-86-1	MS	21.80	0	20	109	81 - 119		
Bromobenzene	108-86-1	MSD	19.70	0	20	98.4	81 - 119	RPD <u>10.30</u> (Max-17)	
Bromochloromethane	74-97-5	MS	21.10	0	20	105	73 - 117		
Bromochloromethane	74-97-5	MSD	19	0	20	95.2	73 - 117	RPD <u>10.20</u> (Max-19)	
Bromodichloromethane	75-27-4	MS	19.50	0	20	97.6	79 - 126		
Bromodichloromethane	75-27-4	MSD	17.70	0	20	88.7	79 - 126	RPD <u>9.53</u> (Max-16)	
Bromoform	75-25-2	MS	17.40	0	20	86.9	70 - 123		
Bromoform	75-25-2	MSD	16	0	20	80.2	70 - 123	RPD <u>8.01</u> (Max-16)	
Bromomethane	74-83-9	MS	22.30	0.53	20	109	45 - 148		
Bromomethane	74-83-9	MSD	20.80	0.53	20	102	45 - 148	RPD <u>6.80</u> (Max-26)	
Carbon Tetrachloride	56-23-5	MS	21.50	0	20	107	62 - 132		
Carbon Tetrachloride	56-23-5	MSD	18.90	0	20	94.3	62 - 132	RPD <u>13.10</u> (Max-17)	
Chlorobenzene	108-90-7	MS	19.80	0	20	98.9	85 - 117		
Chlorobenzene	108-90-7	MSD	18.40	0	20	92.2	85 - 117	RPD <u>6.95</u> (Max-15)	
Chlorodibromomethane	124-48-1	MS	17	0	20	85	77 - 122		
Chlorodibromomethane	124-48-1	MSD	16	0	20	80	77 - 122	RPD <u>6.03</u> (Max-15)	
Chloroethane	75-00-3	MS	19.40	0	20	97	51 - 142		
Chloroethane	75-00-3	MSD	17	0	20	85.1	51 - 142	RPD <u>13</u> (Max-24)	
Chloroform	67-66-3	MS	20.80	0	20	104	78 - 122		
Chloroform	67-66-3	MSD	18.20	0	20	90.9	78 - 122	RPD <u>13.30</u> (Max-16)	
Chloromethane	74-87-3	MS	20.30	0	20	102	38 - 156		
Chloromethane	74-87-3	MSD	18.50	0	20	92.3	38 - 156	RPD <u>9.59</u> (Max-27)	
cis-1,2-Dichloroethene	156-59-2	MS	22.80	1.30	20	107	78 - 125		
cis-1,2-Dichloroethene	156-59-2	MSD	20.30	1.30	20	95	78 - 125	RPD <u>11.40</u> (Max-21)	
cis-1,3-Dichloropropene	10061-01-5	MS	18.40	0	20	92.2	81 - 121		
cis-1,3-Dichloropropene	10061-01-5	MSD	17.50	0	20	87.5	81 - 121	RPD <u>5.22</u> (Max-16)	
Dibromomethane	74-95-3	MS	20.40	0	20	102	81 - 125		
Dibromomethane	74-95-3	MSD	18.60	0	20	93	81 - 125	RPD <u>9.03</u> (Max-16)	
Dichlorodifluoromethane	75-71-8	MS	18.60	0	20	93.1	17 - 166		
Dichlorodifluoromethane	75-71-8	MSD	16.40	0	20	82.1	17 - 166	RPD <u>12.60</u> (Max-24)	
Diisopropyl ether	108-20-3	MS	22.30	0	20	112	74 - 131		
Diisopropyl ether	108-20-3	MSD	20.10	0	20	101	74 - 131	RPD <u>10.50</u> (Max-15)	
Ethylbenzene	100-41-4	MS	20.70	0	20	103	80 - 124		
Ethylbenzene	100-41-4	MSD	18.60	0	20	93.1	80 - 124	RPD <u>10.40</u> (Max-19)	
Hexachlorobutadiene	87-68-3	MS	20.20	0	20	101	55 - 128		
Hexachlorobutadiene	87-68-3	MSD	18.90	0	20	94.4	55 - 128	RPD <u>6.74</u> (Max-35)	



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Methyl t-Butyl Ether	1634-04-4	MS	26.50	5.70	20	104	69 - 115		
Methyl t-Butyl Ether	1634-04-4	MSD	24.10	5.70	20	92.2	69 - 115	RPD	<u>9.62</u> (Max-20)
Methylene Chloride	75-09-2	MS	19.30	0	20	96.4	76 - 121		
Methylene Chloride	75-09-2	MSD	17.60	0	20	87.9	76 - 121	RPD	<u>9.31</u> (Max-17)
mp-Xylene	108383/106423	MS	39.90	0	40	99.8	79 - 125		
mp-Xylene	108383/106423	MSD	37.20	0	40	93.1	79 - 125	RPD	<u>6.99</u> (Max-21)
Naphthalene	91-20-3	MS	20.90	0	20	105	56 - 134		
Naphthalene	91-20-3	MSD	19.40	0	20	97.2	56 - 134	RPD	<u>7.42</u> (Max-40)
o-Chlorotoluene	95-49-8	MS	22.90	0	20	114	78 - 126		
o-Chlorotoluene	95-49-8	MSD	20.20	0	20	101	78 - 126	RPD	<u>12.30</u> (Max-17)
o-Xylene	95-47-6	MS	19.50	0	20	97.7	79 - 124		
o-Xylene	95-47-6	MSD	18.10	0	20	90.3	79 - 124	RPD	<u>7.92</u> (Max-19)
p-Chlorotoluene	106-43-4	MS	22.80	0	20	114	78 - 125		
p-Chlorotoluene	106-43-4	MSD	20.30	0	20	102	78 - 125	RPD	<u>11.60</u> (Max-16)
p-Isopropyltoluene	99-87-6	MS	22.80	0	20	114	72 - 123		
p-Isopropyltoluene	99-87-6	MSD	20.30	0	20	101	72 - 123	RPD	<u>11.80</u> (Max-17)
Styrene	100-42-5	MS	22.70	0	20	114	79 - 123		
Styrene	100-42-5	MSD	20.20	0	20	101	79 - 123	RPD	<u>11.70</u> (Max-16)
Tetrachloroethene	127-18-4	MS	17	0	20	85	72 - 124		
Tetrachloroethene	127-18-4	MSD	15.60	0	20	78.2	72 - 124	RPD	<u>8.25</u> (Max-38)
Toluene	108-88-3	MS	19.30	0	20	96.7	80 - 125		
Toluene	108-88-3	MSD	18.30	0	20	91.4	80 - 125	RPD	<u>5.61</u> (Max-20)
Total Xylenes	1330-20-7	MS	59.50	0	60	99.1	79 - 125		
Total Xylenes	1330-20-7	MSD	55.30	0	60	92.1	79 - 125	RPD	<u>7.29</u> (Max-35)
trans-1,2-Dichloroethene	156-60-5	MS	21	0	20	105	71 - 122		
trans-1,2-Dichloroethene	156-60-5	MSD	18.50	0	20	92.6	71 - 122	RPD	<u>12.70</u> (Max-22)
trans-1,3-Dichloropropene	10061-02-6	MS	17.90	0	20	89.3	78 - 126		
trans-1,3-Dichloropropene	10061-02-6	MSD	17	0	20	85	78 - 126	RPD	<u>4.95</u> (Max-18)
Trichloroethene	79-01-6	MS	20.10	0	20	101	77 - 124		
Trichloroethene	79-01-6	MSD	17.90	0	20	89.7	77 - 124	RPD	<u>11.50</u> (Max-18)
Trichlorofluoromethane	75-69-4	MS	19.50	0	20	97.5	38 - 123		
Trichlorofluoromethane	75-69-4	MSD	17.20	0	20	86.2	38 - 123	RPD	<u>12.30</u> (Max-23)
Vinyl Acetate	108-05-4	MS	14.10	0	20	70.5	58 - 136		
Vinyl Acetate	108-05-4	MSD	13.50	0	20	67.3	58 - 136	RPD	<u>4.60</u> (Max-17)
Vinyl Chloride	75-01-4	MS	18.60	0	20	93.2	27 - 138		
Vinyl Chloride	75-01-4	MSD	17	0	20	84.8	27 - 138	RPD	<u>9.42</u> (Max-40)

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	MS	32.60	30	109	62 - 133	
1,2-Dichloroethane-d4	17060-07-0	MSD	31.80	30	106	62 - 133	
4-Bromofluorobenzene	460-00-4	MS	30.10	30	100	79 - 114	
4-Bromofluorobenzene	460-00-4	MSD	27.40	30	91.3	79 - 114	
Dibromofluoromethane	1868-53-7	MS	31.10	30	104	78 - 116	
Dibromofluoromethane	1868-53-7	MSD	29	30	96.6	78 - 116	
Toluene-d8	2037-26-5	MS	28.40	30	94.6	76 - 127	
Toluene-d8	2037-26-5	MSD	27.90	30	93.2	76 - 127	



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

Method Blank

3843097 (MB)

Created on 06/22/2024 11:21

For QC Batch 1228213

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	BLK	1.0 U	ug/L	1.0	U
1,1,1-Trichloroethane	71-55-6	BLK	1.0 U	ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	1.0 U	ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5	BLK	1.0 U	ug/L	1.0	U
1,1-Dichloroethane	75-34-3	BLK	1.0 U	ug/L	1.0	U
1,1-Dichloroethene	75-35-4	BLK	1.0 U	ug/L	1.0	U
1,1-Dichloropropene	563-58-6	BLK	1.0 U	ug/L	1.0	U
1,2,3-Trichlorobenzene	87-61-6	BLK	2.0 U	ug/L	2.0	U
1,2,3-Trichloropropane	96-18-4	BLK	2.0 U	ug/L	2.0	U
1,2,4-Trichlorobenzene	120-82-1	BLK	2.0 U	ug/L	2.0	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	7.0 U	ug/L	7.0	U
1,2-Dibromoethane	106-93-4	BLK	1.0 U	ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	1.0 U	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	1.0 U	ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	1.0 U	ug/L	1.0	U
1,3-Dichlorobenzene	541-73-1	BLK	1.0 U	ug/L	1.0	U
1,3-Dichloropropane	142-28-9	BLK	1.0 U	ug/L	1.0	U
1,4-Dichlorobenzene	106-46-7	BLK	1.0 U	ug/L	1.0	U
2,2-Dichloropropane	594-20-7	BLK	1.0 U	ug/L	1.0	U
2-Butanone	78-93-3	BLK	10.0 U	ug/L	10.0	U
2-Hexanone	591-78-6	BLK	5.0 U	ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	5.0 U	ug/L	5.0	U
Acetone	67-64-1	BLK	10.0 U	ug/L	10.0	U
Benzene	71-43-2	BLK	1.0 U	ug/L	1.0	U
Bromobenzene	108-86-1	BLK	1.0 U	ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	1.0 U	ug/L	1.0	U
Bromodichloromethane	75-27-4	BLK	1.0 U	ug/L	1.0	U
Bromoform	75-25-2	BLK	1.0 U	ug/L	1.0	U
Bromomethane	74-83-9	BLK	1.0 U	ug/L	1.0	U
Carbon Tetrachloride	56-23-5	BLK	1.0 U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	1.0 U	ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	1.0 U	ug/L	1.0	U
Chloroethane	75-00-3	BLK	1.0 U	ug/L	1.0	U
Chloroform	67-66-3	BLK	1.0 U	ug/L	1.0	U
Chloromethane	74-87-3	BLK	1.0 U	ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	1.0 U	ug/L	1.0	U
cis-1,3-Dichloropropene	10061-01-5	BLK	1.0 U	ug/L	1.0	U
Dibromomethane	74-95-3	BLK	1.0 U	ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	1.0 U	ug/L	1.0	U
Diisopropyl ether	108-20-3	BLK	1.0 U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	1.0 U	ug/L	1.0	U
Hexachlorobutadiene	87-68-3	BLK	5.0 U	ug/L	5.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	1.0 U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	1.0 U	ug/L	1.0	U
mp-Xylene	108383/106423	BLK	2.0 U	ug/L	2.0	U



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
Naphthalene	91-20-3	BLK	2.0 U	ug/L	2.0	U
o-Chlorotoluene	95-49-8	BLK	1.0 U	ug/L	1.0	U
o-Xylene	95-47-6	BLK	1.0 U	ug/L	1.0	U
p-Chlorotoluene	106-43-4	BLK	1.0 U	ug/L	1.0	U
p-Isopropyltoluene	99-87-6	BLK	1.0 U	ug/L	1.0	U
Styrene	100-42-5	BLK	1.0 U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	1.0 U	ug/L	1.0	U
Toluene	108-88-3	BLK	1.0 U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	3.0 U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	1.0 U	ug/L	1.0	U
trans-1,3-Dichloropropene	10061-02-6	BLK	1.0 U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	1.0 U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	1.0 U	ug/L	1.0	U
Vinyl Acetate	108-05-4	BLK	5.0 U	ug/L	5.0	U
Vinyl Chloride	75-01-4	BLK	1.0 U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	31.60	30	105	62 - 133	
4-Bromofluorobenzene	460-00-4	BLK	29.20	30	97.2	79 - 114	
Dibromofluoromethane	1868-53-7	BLK	29	30	96.8	78 - 116	
Toluene-d8	2037-26-5	BLK	29.90	30	99.8	76 - 127	

Lab Control Standard

3843098 (LCS)

Created on 06/22/2024 11:21

For QC Batch 1228213

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	LCS	20.60		20	103	78 - 121		
1,1,1-Trichloroethane	71-55-6	LCS	19.60		20	97.9	66 - 130		
1,1,2,2-Tetrachloroethane	79-34-5	LCS	23.30		20	116	74 - 135		
1,1,2-Trichloroethane	79-00-5	LCS	21.60		20	108	82 - 126		
1,1-Dichloroethane	75-34-3	LCS	20.10		20	100	78 - 124		
1,1-Dichloroethene	75-35-4	LCS	19.70		20	98.6	63 - 128		
1,1-Dichloropropene	563-58-6	LCS	20.50		20	102	76 - 126		
1,2,3-Trichlorobenzene	87-61-6	LCS	21.80		20	109	61 - 126		
1,2,3-Trichloropropane	96-18-4	LCS	22.50		20	113	75 - 132		
1,2,4-Trichlorobenzene	120-82-1	LCS	22.70		20	114	67 - 123		
1,2-Dibromo-3-chloropropane	96-12-8	LCS	19.30		20	96.4	59 - 133		
1,2-Dibromoethane	106-93-4	LCS	20.30		20	101	80 - 124		
1,2-Dichlorobenzene	95-50-1	LCS	22.60		20	113	82 - 118		
1,2-Dichloroethane	107-06-2	LCS	19.70		20	98.4	70 - 133		
1,2-Dichloropropane	78-87-5	LCS	21.40		20	107	81 - 127		
1,3-Dichlorobenzene	541-73-1	LCS	22.50		20	113	81 - 118		
1,3-Dichloropropane	142-28-9	LCS	20.70		20	104	82 - 126		



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,4-Dichlorobenzene	106-46-7	LCS	22.30		20	112	81 - 116		
2,2-Dichloropropane	594-20-7	LCS	20.60		20	103	64 - 129		
2-Butanone	78-93-3	LCS	104		100	104	50 - 152		
2-Hexanone	591-78-6	LCS	115		100	115	65 - 154		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	112		100	112	71 - 146		
Acetone	67-64-1	LCS	104		100	104	40 - 151		
Benzene	71-43-2	LCS	19.90		20	99.3	80 - 124		
Bromobenzene	108-86-1	LCS	22.10		20	111	81 - 119		
Bromochloromethane	74-97-5	LCS	21.30		20	106	73 - 117		
Bromodichloromethane	75-27-4	LCS	19.20		20	96	79 - 126		
Bromoform	75-25-2	LCS	18.10		20	90.4	70 - 123		
Bromomethane	74-83-9	LCS	22.70		20	113	45 - 148		
Carbon Tetrachloride	56-23-5	LCS	17.70		20	88.4	62 - 132		
Chlorobenzene	108-90-7	LCS	20.20		20	101	85 - 117		
Chlorodibromomethane	124-48-1	LCS	18.20		20	91.1	77 - 122		
Chloroethane	75-00-3	LCS	18.60		20	92.9	51 - 142		
Chloroform	67-66-3	LCS	19.80		20	99	78 - 122		
Chloromethane	74-87-3	LCS	19.40		20	96.9	38 - 156		
cis-1,2-Dichloroethene	156-59-2	LCS	20.70		20	103	78 - 125		
cis-1,3-Dichloropropene	10061-01-5	LCS	20.20		20	101	81 - 121		
Dibromomethane	74-95-3	LCS	20.20		20	101	81 - 125		
Dichlorodifluoromethane	75-71-8	LCS	16.50		20	82.6	17 - 166		
Diisopropyl ether	108-20-3	LCS	22.10		20	111	74 - 131		
Ethylbenzene	100-41-4	LCS	20.20		20	101	80 - 124		
Hexachlorobutadiene	87-68-3	LCS	22.90		20	114	55 - 128		
Methyl t-Butyl Ether	1634-04-4	LCS	20.90		20	105	69 - 115		
Methylene Chloride	75-09-2	LCS	18.90		20	94.4	76 - 121		
mp-Xylene	108383/106423	LCS	40.60		40	101	79 - 125		
Naphthalene	91-20-3	LCS	22.10		20	111	56 - 134		
o-Chlorotoluene	95-49-8	LCS	22.40		20	112	78 - 126		
o-Xylene	95-47-6	LCS	19.90		20	99.3	79 - 124		
p-Chlorotoluene	106-43-4	LCS	22.60		20	113	78 - 125		
p-Isopropyltoluene	99-87-6	LCS	23.20		20	116	72 - 123		
Styrene	100-42-5	LCS	22.50		20	112	79 - 123		
Tetrachloroethene	127-18-4	LCS	17.90		20	89.7	72 - 124		
Toluene	108-88-3	LCS	20		20	99.8	80 - 125		
Total Xylenes	1330-20-7	LCS	60.40		60	101	79 - 125		
trans-1,2-Dichloroethene	156-60-5	LCS	20.10		20	101	71 - 122		
trans-1,3-Dichloropropene	10061-02-6	LCS	19.80		20	99.1	78 - 126		
Trichloroethene	79-01-6	LCS	19.50		20	97.7	77 - 124		
Trichlorofluoromethane	75-69-4	LCS	18.40		20	92.2	38 - 123		
Vinyl Acetate	108-05-4	LCS	16.90		20	84.7	58 - 136		
Vinyl Chloride	75-01-4	LCS	17.40		20	87.2	27 - 138		



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

SURROGATES

<u>Compound</u>	<u>CAS No</u>		<u>Result</u> <u>(ug/L)</u>	<u>Expected</u> <u>(ug/L)</u>	<u>Rec.</u> <u>(%)</u>	<u>Limits (%)</u>	<u>Qualifiers</u>
1,2-Dichloroethane-d4	17060-07-0	LCS	31.70	30	106	62 - 133	
4-Bromofluorobenzene	460-00-4	LCS	31.80	30	106	79 - 114	
Dibromofluoromethane	1868-53-7	LCS	31.30	30	104	78 - 116	
Toluene-d8	2037-26-5	LCS	29.70	30	99	76 - 127	



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3364482001	MW-39	SW846 3510C	1224338	06/19/2024 16:10	BMP	SW846 8270E SIM	1228308
		N/A	N/A	N/A		SW846 8260D	1228213

CHAIN-OF-CUSTODY RECORD

WSP USA Office Address
13530 Dulles Technology Dr Suite 300 Herndon VA 20171
 WSP USA Contact Name
Eric Johnson
 WSP USA Contact E-mail
eric.johnson@wsp.com
 WSP USA Contact Phone
(703) 318-3936

Project Name
KOP-Flex Onsite
 Project Location
Hannover MD
 Project Number & Task
P102839 US004
 Sampler(s) Name(s)
Elliott Martynkiewicz

Sample Identification	Matrix	Collection Start*		Collection Stop*		Number of Containers	Request
		Date	Time	Date	Time		
MW-39	GW	6/10/24	1450	6/10/24	1450	4	VOCs EPA 8260
MSE							8270 1,4-Dioxan

Sample Comments	Temp By:	WO Temp (°C)	Therm ID	Requested Turn-Around-Time	Laboratory Name & Location	Tracking Number(s)	Custody Seal Number(s)
	MSE	3°	524	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR	Middletown PA Laboratory Project Manager Susen Scherer		
Receipt Info Completed By: Cooler Custody Seal Intact Sample Custody Seal Intact Received on Ice Cooler & Samples Intact Correct Containers Provided Sample Label/COC Agree Adequate Sample Volumes CR6 Samples Filtered OP Samples Filtered VOA Trip Blank NJs 4 Days? Rad Screen (uCi) Courier/Tracking #: 770850293047 SDWA Compliance PWSID WV Containers 0-6°C *No e/c, G/HCL, A/w/p, MSE							

Relinquished By (Signature): *Elliott Martynkiewicz* Date: 6/13/24 Time: 1206
 Received By (Signature): *Fedex*
 Relinquished By (Signature): *Fedex* Date: 6/14/24 Time: 845
 Received By (Signature): *Fedex*



Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | www.alsglobal.com
 Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 |

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
 State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343, NJ PA101

Analytical Results Report For

WSP USA Inc.

Project Kop Flex On Site
 Workorder 3387069
 Report ID 369475 on 11/26/2024

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Nov 11, 2024.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.
 ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):
 Elliott Martynkiewicz - WSP USA Inc.
 Eric Johnson - WSP USA INC
 Erik Reinert - WSP USA Inc

Susan Scherer

Susan Scherer
 Project Coordinator

(ALS Digital Signature)

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.



Sample Summary

<u>Lab ID</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>	<u>Collector</u>	<u>Collection Company</u>
3387069001	MW-03	Ground Water	11/10/2024 10:55	11/11/2024 17:33	CBC	Collected By Client
3387069002	MW-27 D	Ground Water	11/10/2024 11:10	11/11/2024 17:33	CBC	Collected By Client
3387069003	MW-43	Ground Water	11/10/2024 11:25	11/11/2024 17:33	CBC	Collected By Client
3387069004	MW-39	Ground Water	11/10/2024 11:35	11/11/2024 17:33	CBC	Collected By Client
3387069005	MW-42	Ground Water	11/10/2024 11:45	11/11/2024 17:33	CBC	Collected By Client
3387069006	MW-18	Ground Water	11/10/2024 12:05	11/11/2024 17:33	CBC	Collected By Client
3387069007	MW-38R	Ground Water	11/10/2024 12:15	11/11/2024 17:33	CBC	Collected By Client
3387069008	RW-1S	Ground Water	11/10/2024 12:25	11/11/2024 17:33	CBC	Collected By Client
3387069009	RW-2S	Ground Water	11/10/2024 12:35	11/11/2024 17:33	CBC	Collected By Client
3387069010	Trip Blank A	Ground Water	11/10/2024 00:00	11/11/2024 17:33	CBC	Collected By Client
3387069011	MW-5R	Ground Water	11/10/2024 12:45	11/11/2024 17:33	CBC	Collected By Client
3387069012	MW-40 D	Ground Water	11/10/2024 12:55	11/11/2024 17:33	CBC	Collected By Client
3387069013	MW-100	Ground Water	11/10/2024 13:00	11/11/2024 17:33	CBC	Collected By Client
3387069014	MW-44	Ground Water	11/10/2024 14:00	11/11/2024 17:33	CBC	Collected By Client
3387069015	MW-21D	Ground Water	11/10/2024 14:20	11/11/2024 17:33	CBC	Collected By Client
3387069016	RW-1D	Ground Water	11/10/2024 14:30	11/11/2024 17:33	CBC	Collected By Client
3387069017	MW-41D	Ground Water	11/10/2024 14:40	11/11/2024 17:33	CBC	Collected By Client
3387069018	Trip Blank B	Ground Water	11/10/2024 00:00	11/11/2024 17:33	CBC	Collected By Client
3387069019	MW-01D	Ground Water	11/11/2024 14:50	11/11/2024 17:33	CBC	Collected By Client
3387069020	MW-01	Ground Water	11/11/2024 15:00	11/11/2024 17:33	CBC	Collected By Client
3387069021	MW-22D	Ground Water	11/11/2024 15:10	11/11/2024 17:33	CBC	Collected By Client
3387069022	MW-20	Ground Water	11/11/2024 15:40	11/11/2024 17:33	CBC	Collected By Client
3387069023	MW-4R	Ground Water	11/11/2024 15:50	11/11/2024 17:33	CBC	Collected By Client
3387069024	MW-09	Ground Water	11/11/2024 16:00	11/11/2024 17:33	CBC	Collected By Client
3387069025	MW-23D	Ground Water	11/11/2024 16:15	11/11/2024 17:33	CBC	Collected By Client
3387069026	MW-16	Ground Water	11/11/2024 16:30	11/11/2024 17:33	CBC	Collected By Client
3387069027	MW-16D	Ground Water	11/11/2024 16:40	11/11/2024 17:33	CBC	Collected By Client
3387069028	Trip Blank C	Ground Water	11/11/2024 00:00	11/11/2024 17:33	CBC	Collected By Client



Reference

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136, including but not limited to the following EPA Method reference revisions:
EPA 300.1 Rev. 1.0-1997
EPA 300.0 Rev. 2.1-1993
EPA 353.2 Rev. 2.0-1993
EPA 410.4 Rev. 1.0-1993
EPA 420.4 Rev. 1.0-1993
EPA 365.1 Rev. 2.0-1993
EPA 200.7 Rev. 4.4-1994
EPA 200.8 Rev. 5.4-1994
EPA 245.1 Rev. 3.0-1994
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.



Project Notations

Sample Notations

Lab ID **Sample ID**

Result Notations

Notation Ref.

- | | |
|---|--|
| 1 | The QC sample type LCS for method SW846 8260D was outside the control limits for the analyte Hexachlorobutadiene. The % Recovery was reported as 139 and the control limits were 55 to 128. |
| 2 | The surrogate 2-Methylnaphthalene-d10 for method SW846 8270E SIM was outside of control limits. The % Recovery was reported as 0 and the control limits were 29 to 112. This result was reported at a dilution of 50. |
| 3 | The surrogate 2-Methylnaphthalene-d10 for method SW846 8270E SIM was outside of control limits. The % Recovery was reported as 0 and the control limits were 29 to 112. This result was reported at a dilution of 100. |
| 4 | The surrogate 2-Methylnaphthalene-d10 for method SW846 8270E SIM was outside of control limits. The % Recovery was reported as 0 and the control limits were 29 to 112. This result was reported at a dilution of 10. |
| 5 | The surrogate 2-Methylnaphthalene-d10 for method SW846 8270E SIM was outside of control limits. The % Recovery was reported as 0 and the control limits were 29 to 112. This result was reported at a dilution of 20. |



Detected Results Summary

Client Sample ID MW-43 Collected 11/10/2024 11:25
Lab Sample ID 3387069003 Lab Receipt 11/11/2024 17:33

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	9.6	ug/L	1.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1-Dichloroethane	1.3	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethene	15.2	ug/L	1.0	SW846 8260D	#
Methyl t-Butyl Ether	1.9	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID	MW-42	Collected	11/10/2024 11:45
Lab Sample ID	3387069005	Lab Receipt	11/11/2024 17:33

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	3.3	ug/L	1.0	SW846 8270E SIM	#



Detected Results Summary

Client Sample ID	MW-38R	Collected	11/10/2024 12:15
Lab Sample ID	3387069007	Lab Receipt	11/11/2024 17:33

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	19.2	ug/L	5.2	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1-Dichloroethane	3.9	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID	RW-1S	Collected	11/10/2024 12:25
Lab Sample ID	3387069008	Lab Receipt	11/11/2024 17:33

Compound	Result	Units	RDL	Method	Flag
SEMIVOLATILE SIM					
1,4-Dioxane	176	ug/L	50.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	56.3	ug/L	5.0	SW846 8260D	#
1,1-Dichloroethane	162	ug/L	5.0	SW846 8260D	#
1,1-Dichloroethene	623	ug/L	5.0	SW846 8260D	#
Chloroethane	21.0	ug/L	5.0	SW846 8260D	#
Vinyl Chloride	5.8	ug/L	5.0	SW846 8260D	#



Detected Results Summary

Client Sample ID	RW-2S	Collected	11/10/2024 12:35
Lab Sample ID	3387069009	Lab Receipt	11/11/2024 17:33

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	179	ug/L	50.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	205	ug/L	5.0	SW846 8260D	#
1,1-Dichloroethane	57.2	ug/L	5.0	SW846 8260D	#
1,1-Dichloroethene	349	ug/L	5.0	SW846 8260D	#



Detected Results Summary

Client Sample ID	MW-5R	Collected	11/10/2024 12:45
Lab Sample ID	3387069011	Lab Receipt	11/11/2024 17:33

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	1.9	ug/L	1.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	1.1	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID MW-100 Collected 11/10/2024 13:00
Lab Sample ID 3387069013 Lab Receipt 11/11/2024 17:33

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	24.8	ug/L	5.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	3.2	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethane	15.0	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethene	58.8	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID	MW-44	Collected	11/10/2024 14:00
Lab Sample ID	3387069014	Lab Receipt	11/11/2024 17:33

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	2.8	ug/L	1.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	2.0	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethane	1.6	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethene	2.0	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID	MW-21D	Collected	11/10/2024 14:20
Lab Sample ID	3387069015	Lab Receipt	11/11/2024 17:33

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	7.2	ug/L	1.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1-Dichloroethene	19.8	ug/L	1.0	SW846 8260D	#
Methyl t-Butyl Ether	1.6	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID	RW-1D	Collected	11/10/2024 14:30
Lab Sample ID	3387069016	Lab Receipt	11/11/2024 17:33

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	50.4	ug/L	10.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	18.3	ug/L	5.0	SW846 8260D	#
1,1-Dichloroethane	100	ug/L	5.0	SW846 8260D	#
1,1-Dichloroethene	384	ug/L	5.0	SW846 8260D	#
Chloroethane	14.8	ug/L	5.0	SW846 8260D	#



Detected Results Summary

Client Sample ID MW-01D Collected 11/11/2024 14:50
Lab Sample ID 3387069019 Lab Receipt 11/11/2024 17:33

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	6.2	ug/L	1.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1-Dichloroethane	2.9	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethene	15.6	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID	MW-22D	Collected	11/11/2024 15:10
Lab Sample ID	3387069021	Lab Receipt	11/11/2024 17:33

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	3.4	ug/L	1.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1-Dichloroethene	10.8	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID	MW-20	Collected	11/11/2024 15:40
Lab Sample ID	3387069022	Lab Receipt	11/11/2024 17:33

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	616	ug/L	104	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1-Dichloroethane	389	ug/L	5.0	SW846 8260D	#
1,1-Dichloroethene	528	ug/L	5.0	SW846 8260D	#
1,2-Dichloroethane	13.2	ug/L	5.0	SW846 8260D	#



Detected Results Summary

Client Sample ID MW-4R Collected 11/11/2024 15:50
Lab Sample ID 3387069023 Lab Receipt 11/11/2024 17:33

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	36.8	ug/L	5.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1-Dichloroethane	32.6	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethene	61.6	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID MW-09 Collected 11/11/2024 16:00
Lab Sample ID 3387069024 Lab Receipt 11/11/2024 17:33

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	2.2	ug/L	1.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1-Dichloroethane	1.1	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethene	18.0	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID	MW-23D	Collected	11/11/2024 16:15
Lab Sample ID	3387069025	Lab Receipt	11/11/2024 17:33

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	34.1	ug/L	10.0	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	4.6	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethane	20.1	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethene	77.6	ug/L	1.0	SW846 8260D	#



Detected Results Summary

Client Sample ID	MW-16	Collected	11/11/2024 16:30
Lab Sample ID	3387069026	Lab Receipt	11/11/2024 17:33

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
SEMIVOLATILE SIM					
1,4-Dioxane	88.1	ug/L	29.4	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	767	ug/L	20.0	SW846 8260D	#
1,1-Dichloroethane	1030	ug/L	20.0	SW846 8260D	#
1,1-Dichloroethene	1490	ug/L	20.0	SW846 8260D	#
Chloroethane	35.4	ug/L	20.0	SW846 8260D	#



Detected Results Summary

Client Sample ID	MW-16D	Collected	11/11/2024 16:40
Lab Sample ID	3387069027	Lab Receipt	11/11/2024 17:33

Compound	Result	Units	RDL	Method	Flag
SEMIVOLATILE SIM					
1,4-Dioxane	21.6	ug/L	5.2	SW846 8270E SIM	#
VOLATILE ORGANICS					
1,1,1-Trichloroethane	3.5	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethane	16.8	ug/L	1.0	SW846 8260D	#
1,1-Dichloroethene	68.2	ug/L	1.0	SW846 8260D	#



Results

Client Sample ID	MW-03	Collected	11/10/2024 10:55
Lab Sample ID	3387069001	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	2.5 U	U	ug/L	2.5	SW846 8270E SIM	1	11/15/2024 23:28	M1O	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	61.1%	29 - 112	11/15/2024 23:28	
Fluoranthene-d10	93951-69-0	76.8%	45 - 130	11/15/2024 23:28	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A



Results

Client Sample ID	MW-03	Collected	11/10/2024 10:55
Lab Sample ID	3387069001	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Hexachlorobutadiene	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 03:06	PDK	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:06	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	102%	62 - 133	11/21/2024 03:06	
4-Bromofluorobenzene	460-00-4	100%	79 - 114	11/21/2024 03:06	
Dibromofluoromethane	1868-53-7	96.1%	78 - 116	11/21/2024 03:06	
Toluene-d8	2037-26-5	99.3%	76 - 127	11/21/2024 03:06	



Results

Client Sample ID	MW-27 D	Collected	11/10/2024 11:10
Lab Sample ID	3387069002	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	1.0 U	U	ug/L	1.0	SW846 8270E SIM	1	11/15/2024 23:56	M1O	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnapthalene-d10	7297-45-2	56.6%	29 - 112	11/15/2024 23:56	
Fluoranthene-d10	93951-69-0	74.4%	45 - 130	11/15/2024 23:56	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A



Results

Client Sample ID	MW-27 D	Collected	11/10/2024 11:10
Lab Sample ID	3387069002	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Hexachlorobutadiene	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 03:26	PDK	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:26	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	102%	62 - 133	11/21/2024 03:26	
4-Bromofluorobenzene	460-00-4	103%	79 - 114	11/21/2024 03:26	
Dibromofluoromethane	1868-53-7	95.3%	78 - 116	11/21/2024 03:26	
Toluene-d8	2037-26-5	98.7%	76 - 127	11/21/2024 03:26	



Results

Client Sample ID	MW-43	Collected	11/10/2024 11:25
Lab Sample ID	3387069003	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	9.6		ug/L	1.0	SW846 8270E SIM	1	11/16/2024 00:23	M1O	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnapthalene-d10	7297-45-2	63.3%	29 - 112	11/16/2024 00:23	
Fluoranthene-d10	93951-69-0	78.6%	45 - 130	11/16/2024 00:23	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,1-Dichloroethane	1.3		ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,1-Dichloroethene	15.2		ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A



Results

Client Sample ID	MW-43	Collected	11/10/2024 11:25
Lab Sample ID	3387069003	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Hexachlorobutadiene	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Methyl t-Butyl Ether	1.9		ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 03:47	PDK	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 03:47	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	102%	62 - 133	11/21/2024 03:47	
4-Bromofluorobenzene	460-00-4	102%	79 - 114	11/21/2024 03:47	
Dibromofluoromethane	1868-53-7	96.4%	78 - 116	11/21/2024 03:47	
Toluene-d8	2037-26-5	99.6%	76 - 127	11/21/2024 03:47	



Results

Client Sample ID	MW-39	Collected	11/10/2024 11:35
Lab Sample ID	3387069004	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	1.0 U	U	ug/L	1.0	SW846 8270E SIM	1	11/16/2024 00:50	M1O	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	65.5%	29 - 112	11/16/2024 00:50	
Fluoranthene-d10	93951-69-0	82.9%	45 - 130	11/16/2024 00:50	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A



Results

Client Sample ID	MW-39	Collected	11/10/2024 11:35
Lab Sample ID	3387069004	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Hexachlorobutadiene	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 04:07	PDK	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:07	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	105%	62 - 133	11/21/2024 04:07	
4-Bromofluorobenzene	460-00-4	101%	79 - 114	11/21/2024 04:07	
Dibromofluoromethane	1868-53-7	97.8%	78 - 116	11/21/2024 04:07	
Toluene-d8	2037-26-5	100%	76 - 127	11/21/2024 04:07	



Results

Client Sample ID	MW-42	Collected	11/10/2024 11:45
Lab Sample ID	3387069005	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	3.3		ug/L	1.0	SW846 8270E SIM	1	11/16/2024 01:18	M1O	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnapthalene-d10	7297-45-2	73.1%	29 – 112	11/16/2024 01:18	
Fluoranthene-d10	93951-69-0	96.4%	45 – 130	11/16/2024 01:18	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A



Results

Client Sample ID	MW-42	Collected	11/10/2024 11:45
Lab Sample ID	3387069005	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Hexachlorobutadiene	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 04:28	PDK	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:28	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	103%	62 - 133	11/21/2024 04:28	
4-Bromofluorobenzene	460-00-4	100%	79 - 114	11/21/2024 04:28	
Dibromofluoromethane	1868-53-7	98%	78 - 116	11/21/2024 04:28	
Toluene-d8	2037-26-5	99.3%	76 - 127	11/21/2024 04:28	



Results

Client Sample ID	MW-18	Collected	11/10/2024 12:05
Lab Sample ID	3387069006	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	1.0 U	U	ug/L	1.0	SW846 8270E SIM	1	11/16/2024 01:45	M1O	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	52.1%	29 - 112	11/16/2024 01:45	
Fluoranthene-d10	93951-69-0	82.5%	45 - 130	11/16/2024 01:45	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A



Results

Client Sample ID	MW-18	Collected	11/10/2024 12:05
Lab Sample ID	3387069006	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Hexachlorobutadiene	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 04:48	PDK	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 04:48	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	104%	62 - 133	11/21/2024 04:48	
4-Bromofluorobenzene	460-00-4	104%	79 - 114	11/21/2024 04:48	
Dibromofluoromethane	1868-53-7	96.5%	78 - 116	11/21/2024 04:48	
Toluene-d8	2037-26-5	100%	76 - 127	11/21/2024 04:48	



Results

Client Sample ID	MW-38R	Collected	11/10/2024 12:15
Lab Sample ID	3387069007	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	19.2		ug/L	5.2	SW846 8270E SIM	5	11/19/2024 09:36	S7M	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	66.2%	29 – 112	11/16/2024 02:12	
2-Methylnaphthalene-d10	7297-45-2	57.5%	29 – 112	11/19/2024 09:36	
Fluoranthene-d10	93951-69-0	81.6%	45 – 130	11/16/2024 02:12	
Fluoranthene-d10	93951-69-0	73.6%	45 – 130	11/19/2024 09:36	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,1-Dichloroethane	3.9		ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A



Results

Client Sample ID	MW-38R	Collected	11/10/2024 12:15
Lab Sample ID	3387069007	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Hexachlorobutadiene	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 05:09	PDK	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 05:09	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	102%	62 - 133	11/21/2024 05:09	
4-Bromofluorobenzene	460-00-4	99.3%	79 - 114	11/21/2024 05:09	
Dibromofluoromethane	1868-53-7	96.9%	78 - 116	11/21/2024 05:09	
Toluene-d8	2037-26-5	99.9%	76 - 127	11/21/2024 05:09	



Results

Client Sample ID	RW-1S	Collected	11/10/2024 12:25
Lab Sample ID	3387069008	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	176		ug/L	50.0	SW846 8270E SIM	50	11/19/2024 10:03	S7M	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	59.9%	29 - 112	11/16/2024 02:40	
2-Methylnaphthalene-d10	7297-45-2	0*%	29 - 112	11/19/2024 10:03	2
Fluoranthene-d10	93951-69-0	78.2%	45 - 130	11/16/2024 02:40	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,1,1-Trichloroethane	56.3		ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,1,2,2-Tetrachloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,1,2-Trichloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,1-Dichloroethane	162		ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,1-Dichloroethene	623		ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,1-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,2,3-Trichlorobenzene	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,2,3-Trichloropropane	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,2,4-Trichlorobenzene	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,2-Dibromo-3-chloropropane	35.0 U	U	ug/L	35.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,2-Dibromoethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,2-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,2-Dichloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,2-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,3-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,3-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
1,4-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
2,2-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
2-Butanone	50.0 U	U	ug/L	50.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
2-Hexanone	25.0 U	U	ug/L	25.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
4-Methyl-2-Pentanone(MIBK)	25.0 U	U	ug/L	25.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Acetone	50.0 U	U	ug/L	50.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Benzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Bromobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Bromochloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Bromodichloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Bromoform	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Bromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Carbon Tetrachloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Chlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Chlorodibromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Chloroethane	21.0		ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Chloroform	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A



Results

Client Sample ID	RW-1S	Collected	11/10/2024 12:25
Lab Sample ID	3387069008	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
cis-1,2-Dichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
cis-1,3-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Dibromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Dichlorodifluoromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Diisopropyl ether	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Ethylbenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Hexachlorobutadiene	25.0 U	U,1	ug/L	25.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Methyl t-Butyl Ether	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Methylene Chloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
mp-Xylene	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Naphthalene	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
o-Chlorotoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
o-Xylene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
p-Chlorotoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
p-Isopropyltoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Styrene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Tetrachloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Toluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Total Xylenes	15.0 U	U	ug/L	15.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
trans-1,2-Dichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
trans-1,3-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Trichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Trichlorofluoromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Vinyl Acetate	25.0 U	U	ug/L	25.0	SW846 8260D	5	11/21/2024 05:29	PDK	A
Vinyl Chloride	5.8		ug/L	5.0	SW846 8260D	5	11/21/2024 05:29	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	101%	62 - 133	11/21/2024 05:29	
4-Bromofluorobenzene	460-00-4	101%	79 - 114	11/21/2024 05:29	
Dibromofluoromethane	1868-53-7	94.7%	78 - 116	11/21/2024 05:29	
Toluene-d8	2037-26-5	101%	76 - 127	11/21/2024 05:29	



Results

Client Sample ID	RW-2S	Collected	11/10/2024 12:35
Lab Sample ID	3387069009	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	179		ug/L	50.0	SW846 8270E SIM	50	11/19/2024 10:31	S7M	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	66%	29 - 112	11/16/2024 03:07	
2-Methylnaphthalene-d10	7297-45-2	0*%	29 - 112	11/19/2024 10:31	2
Fluoranthene-d10	93951-69-0	89.7%	45 - 130	11/16/2024 03:07	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,1,1-Trichloroethane	205		ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,1,2,2-Tetrachloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,1,2-Trichloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,1-Dichloroethane	57.2		ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,1-Dichloroethene	349		ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,1-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,2,3-Trichlorobenzene	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,2,3-Trichloropropane	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,2,4-Trichlorobenzene	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,2-Dibromo-3-chloropropane	35.0 U	U	ug/L	35.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,2-Dibromoethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,2-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,2-Dichloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,2-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,3-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,3-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
1,4-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
2,2-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
2-Butanone	50.0 U	U	ug/L	50.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
2-Hexanone	25.0 U	U	ug/L	25.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
4-Methyl-2-Pentanone(MIBK)	25.0 U	U	ug/L	25.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Acetone	50.0 U	U	ug/L	50.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Benzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Bromobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Bromochloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Bromodichloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Bromoform	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Bromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Carbon Tetrachloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Chlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Chlorodibromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Chloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Chloroform	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A



Results

Client Sample ID	RW-2S	Collected	11/10/2024 12:35
Lab Sample ID	3387069009	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
cis-1,2-Dichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
cis-1,3-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Dibromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Dichlorodifluoromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Diisopropyl ether	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Ethylbenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Hexachlorobutadiene	25.0 U	U,1	ug/L	25.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Methyl t-Butyl Ether	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Methylene Chloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
mp-Xylene	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Naphthalene	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
o-Chlorotoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
o-Xylene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
p-Chlorotoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
p-Isopropyltoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Styrene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Tetrachloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Toluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Total Xylenes	15.0 U	U	ug/L	15.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
trans-1,2-Dichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
trans-1,3-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Trichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Trichlorofluoromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Vinyl Acetate	25.0 U	U	ug/L	25.0	SW846 8260D	5	11/21/2024 05:49	PDK	A
Vinyl Chloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/21/2024 05:49	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	101%	62 - 133	11/21/2024 05:49	
4-Bromofluorobenzene	460-00-4	101%	79 - 114	11/21/2024 05:49	
Dibromofluoromethane	1868-53-7	95.6%	78 - 116	11/21/2024 05:49	
Toluene-d8	2037-26-5	99.4%	76 - 127	11/21/2024 05:49	



Results

Client Sample ID	Trip Blank A	Collected	11/10/2024 00:00
Lab Sample ID	3387069010	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Hexachlorobutadiene	5.0 U	U,1	ug/L	5.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A



Results

Client Sample ID	Trip Blank A	Collected	11/10/2024 00:00
Lab Sample ID	3387069010	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/21/2024 00:02	PDK	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/21/2024 00:02	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	107%	62 – 133	11/21/2024 00:02	
4-Bromofluorobenzene	460-00-4	105%	79 – 114	11/21/2024 00:02	
Dibromofluoromethane	1868-53-7	99.8%	78 – 116	11/21/2024 00:02	
Toluene-d8	2037-26-5	104%	76 – 127	11/21/2024 00:02	



Results

Client Sample ID	MW-5R	Collected	11/10/2024 12:45
Lab Sample ID	3387069011	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	1.9		ug/L	1.0	SW846 8270E SIM	1	11/16/2024 03:35	M1O	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	54%	29 - 112	11/16/2024 03:35	
Fluoranthene-d10	93951-69-0	67.2%	45 - 130	11/16/2024 03:35	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,1,1-Trichloroethane	1.1		ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A



Results

Client Sample ID	MW-5R	Collected	11/10/2024 12:45
Lab Sample ID	3387069011	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 12:35	ILY	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:35	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	100%	62 - 133	11/22/2024 12:35	
4-Bromofluorobenzene	460-00-4	99.1%	79 - 114	11/22/2024 12:35	
Dibromofluoromethane	1868-53-7	95.9%	78 - 116	11/22/2024 12:35	
Toluene-d8	2037-26-5	99.9%	76 - 127	11/22/2024 12:35	



Results

Client Sample ID	MW-40 D	Collected	11/10/2024 12:55
Lab Sample ID	3387069012	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	1.0 U	U	ug/L	1.0	SW846 8270E SIM	1	11/16/2024 04:02	M1O	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	73.5%	29 - 112	11/16/2024 04:02	
Fluoranthene-d10	93951-69-0	89.4%	45 - 130	11/16/2024 04:02	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A



Results

Client Sample ID	MW-40 D	Collected	11/10/2024 12:55
Lab Sample ID	3387069012	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 12:55	ILY	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:55	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	102%	62 - 133	11/22/2024 12:55	
4-Bromofluorobenzene	460-00-4	98.5%	79 - 114	11/22/2024 12:55	
Dibromofluoromethane	1868-53-7	97.4%	78 - 116	11/22/2024 12:55	
Toluene-d8	2037-26-5	99.5%	76 - 127	11/22/2024 12:55	



Results

Client Sample ID	MW-100	Collected	11/10/2024 13:00
Lab Sample ID	3387069013	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	24.8		ug/L	5.0	SW846 8270E SIM	5	11/19/2024 10:58	S7M	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	55.4%	29 – 112	11/16/2024 04:29	
2-Methylnaphthalene-d10	7297-45-2	76.7%	29 – 112	11/19/2024 10:58	
Fluoranthene-d10	93951-69-0	64.9%	45 – 130	11/16/2024 04:29	
Fluoranthene-d10	93951-69-0	60.5%	45 – 130	11/19/2024 10:58	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,1,1-Trichloroethane	3.2		ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,1-Dichloroethane	15.0		ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,1-Dichloroethene	58.8		ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A



Results

Client Sample ID	MW-100	Collected	11/10/2024 13:00
Lab Sample ID	3387069013	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 13:15	ILY	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:15	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	101%	62 - 133	11/22/2024 13:15	
4-Bromofluorobenzene	460-00-4	99.1%	79 - 114	11/22/2024 13:15	
Dibromofluoromethane	1868-53-7	95.8%	78 - 116	11/22/2024 13:15	
Toluene-d8	2037-26-5	99.8%	76 - 127	11/22/2024 13:15	



Results

Client Sample ID	MW-44	Collected	11/10/2024 14:00
Lab Sample ID	3387069014	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	2.8		ug/L	1.0	SW846 8270E SIM	1	11/16/2024 04:57	M1O	J

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	68.3%	29 - 112	11/16/2024 04:57	
Fluoranthene-d10	93951-69-0	79.9%	45 - 130	11/16/2024 04:57	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,1,1-Trichloroethane	2.0		ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,1-Dichloroethane	1.6		ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,1-Dichloroethene	2.0		ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A



Results

Client Sample ID	MW-44	Collected	11/10/2024 14:00
Lab Sample ID	3387069014	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 13:36	ILY	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:36	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	103%	62 - 133	11/22/2024 13:36	
4-Bromofluorobenzene	460-00-4	102%	79 - 114	11/22/2024 13:36	
Dibromofluoromethane	1868-53-7	96.6%	78 - 116	11/22/2024 13:36	
Toluene-d8	2037-26-5	101%	76 - 127	11/22/2024 13:36	



Results

Client Sample ID	MW-21D	Collected	11/10/2024 14:20
Lab Sample ID	3387069015	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	7.2		ug/L	1.0	SW846 8270E SIM	1	11/16/2024 06:19	M1O	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnapthalene-d10	7297-45-2	66.6%	29 - 112	11/16/2024 06:19	
Fluoranthene-d10	93951-69-0	76.5%	45 - 130	11/16/2024 06:19	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,1-Dichloroethene	19.8		ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A



Results

Client Sample ID	MW-21D	Collected	11/10/2024 14:20
Lab Sample ID	3387069015	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Methyl t-Butyl Ether	1.6		ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 13:56	ILY	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 13:56	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	102%	62 – 133	11/22/2024 13:56	
4-Bromofluorobenzene	460-00-4	100%	79 – 114	11/22/2024 13:56	
Dibromofluoromethane	1868-53-7	98.4%	78 – 116	11/22/2024 13:56	
Toluene-d8	2037-26-5	99.6%	76 – 127	11/22/2024 13:56	



Results

Client Sample ID	RW-1D	Collected	11/10/2024 14:30
Lab Sample ID	3387069016	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	50.4		ug/L	10.0	SW846 8270E SIM	10	11/19/2024 11:25	S7M	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	63.6%	29 - 112	11/16/2024 06:46	
2-Methylnaphthalene-d10	7297-45-2	81%	29 - 112	11/19/2024 11:25	
Fluoranthene-d10	93951-69-0	78.4%	45 - 130	11/16/2024 06:46	
Fluoranthene-d10	93951-69-0	72.3%	45 - 130	11/19/2024 11:25	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,1,1-Trichloroethane	18.3		ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,1,2,2-Tetrachloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,1,2-Trichloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,1-Dichloroethane	100		ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,1-Dichloroethene	384		ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,1-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,2,3-Trichlorobenzene	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,2,3-Trichloropropane	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,2,4-Trichlorobenzene	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,2-Dibromo-3-chloropropane	35.0 U	U	ug/L	35.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,2-Dibromoethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,2-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,2-Dichloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,2-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,3-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,3-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
1,4-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
2,2-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
2-Butanone	50.0 U	U	ug/L	50.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
2-Hexanone	25.0 U	U	ug/L	25.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
4-Methyl-2-Pentanone(MIBK)	25.0 U	U	ug/L	25.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Acetone	50.0 U	U	ug/L	50.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Benzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Bromobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Bromochloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Bromodichloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Bromoform	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Bromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Carbon Tetrachloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Chlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Chlorodibromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Chloroethane	14.8		ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A



Results

Client Sample ID	RW-1D	Collected	11/10/2024 14:30
Lab Sample ID	3387069016	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloroform	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Chloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
cis-1,2-Dichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
cis-1,3-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Dibromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Dichlorodifluoromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Diisopropyl ether	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Ethylbenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Hexachlorobutadiene	25.0 U	U	ug/L	25.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Methyl t-Butyl Ether	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Methylene Chloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
mp-Xylene	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Naphthalene	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
o-Chlorotoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
o-Xylene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
p-Chlorotoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
p-Isopropyltoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Styrene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Tetrachloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Toluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Total Xylenes	15.0 U	U	ug/L	15.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
trans-1,2-Dichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
trans-1,3-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Trichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Trichlorofluoromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Vinyl Acetate	25.0 U	U	ug/L	25.0	SW846 8260D	5	11/22/2024 18:01	ILY	A
Vinyl Chloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 18:01	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	104%	62 - 133	11/22/2024 18:01	
4-Bromofluorobenzene	460-00-4	100%	79 - 114	11/22/2024 18:01	
Dibromofluoromethane	1868-53-7	98.8%	78 - 116	11/22/2024 18:01	
Toluene-d8	2037-26-5	99.8%	76 - 127	11/22/2024 18:01	



Results

Client Sample ID	MW-41D	Collected	11/10/2024 14:40
Lab Sample ID	3387069017	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	1.0 U	U	ug/L	1.0	SW846 8270E SIM	1	11/16/2024 07:14	M1O	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnapthalene-d10	7297-45-2	61.2%	29 - 112	11/16/2024 07:14	
Fluoranthene-d10	93951-69-0	75.9%	45 - 130	11/16/2024 07:14	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A



Results

Client Sample ID	MW-41D	Collected	11/10/2024 14:40
Lab Sample ID	3387069017	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 14:17	ILY	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:17	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	102%	62 – 133	11/22/2024 14:17	
4-Bromofluorobenzene	460-00-4	98.8%	79 – 114	11/22/2024 14:17	
Dibromofluoromethane	1868-53-7	96.5%	78 – 116	11/22/2024 14:17	
Toluene-d8	2037-26-5	98.4%	76 – 127	11/22/2024 14:17	



Results

Client Sample ID	Trip Blank B	Collected	11/10/2024 00:00
Lab Sample ID	3387069018	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A



Results

Client Sample ID	Trip Blank B	Collected	11/10/2024 00:00
Lab Sample ID	3387069018	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 11:54	ILY	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 11:54	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	103%	62 – 133	11/22/2024 11:54	
4-Bromofluorobenzene	460-00-4	101%	79 – 114	11/22/2024 11:54	
Dibromofluoromethane	1868-53-7	98%	78 – 116	11/22/2024 11:54	
Toluene-d8	2037-26-5	101%	76 – 127	11/22/2024 11:54	



Results

Client Sample ID	MW-01D	Collected	11/11/2024 14:50
Lab Sample ID	3387069019	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	6.2		ug/L	1.0	SW846 8270E SIM	1	11/16/2024 07:41	M1O	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnapthalene-d10	7297-45-2	62.3%	29 - 112	11/16/2024 07:41	
Fluoranthene-d10	93951-69-0	76.1%	45 - 130	11/16/2024 07:41	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,1-Dichloroethane	2.9		ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,1-Dichloroethene	15.6		ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A



Results

Client Sample ID	MW-01D	Collected	11/11/2024 14:50
Lab Sample ID	3387069019	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 14:37	ILY	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:37	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	103%	62 - 133	11/22/2024 14:37	
4-Bromofluorobenzene	460-00-4	99.5%	79 - 114	11/22/2024 14:37	
Dibromofluoromethane	1868-53-7	97.2%	78 - 116	11/22/2024 14:37	
Toluene-d8	2037-26-5	100%	76 - 127	11/22/2024 14:37	



Results

Client Sample ID	MW-01	Collected	11/11/2024 15:00
Lab Sample ID	3387069020	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	1.0 U	U	ug/L	1.0	SW846 8270E SIM	1	11/16/2024 08:08	M1O	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnapthalene-d10	7297-45-2	62%	29 - 112	11/16/2024 08:08	
Fluoranthene-d10	93951-69-0	79.5%	45 - 130	11/16/2024 08:08	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A



Results

Client Sample ID	MW-01	Collected	11/11/2024 15:00
Lab Sample ID	3387069020	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 14:58	ILY	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 14:58	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	104%	62 - 133	11/22/2024 14:58	
4-Bromofluorobenzene	460-00-4	102%	79 - 114	11/22/2024 14:58	
Dibromofluoromethane	1868-53-7	99.2%	78 - 116	11/22/2024 14:58	
Toluene-d8	2037-26-5	99.7%	76 - 127	11/22/2024 14:58	



Results

Client Sample ID	MW-22D	Collected	11/11/2024 15:10
Lab Sample ID	3387069021	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	3.4		ug/L	1.0	SW846 8270E SIM	1	11/16/2024 08:35	M1O	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnapthalene-d10	7297-45-2	69.6%	29 - 112	11/16/2024 08:35	
Fluoranthene-d10	93951-69-0	81.2%	45 - 130	11/16/2024 08:35	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,1-Dichloroethene	10.8		ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A



Results

Client Sample ID	MW-22D	Collected	11/11/2024 15:10
Lab Sample ID	3387069021	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 15:18	ILY	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:18	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	102%	62 – 133	11/22/2024 15:18	
4-Bromofluorobenzene	460-00-4	101%	79 – 114	11/22/2024 15:18	
Dibromofluoromethane	1868-53-7	97.6%	78 – 116	11/22/2024 15:18	
Toluene-d8	2037-26-5	100%	76 – 127	11/22/2024 15:18	



Results

Client Sample ID	MW-20	Collected	11/11/2024 15:40
Lab Sample ID	3387069022	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	616		ug/L	104	SW846 8270E SIM	100	11/19/2024 11:52	S7M	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	55%	29 - 112	11/16/2024 09:02	
2-Methylnaphthalene-d10	7297-45-2	0*%	29 - 112	11/19/2024 11:52	3
Fluoranthene-d10	93951-69-0	64.6%	45 - 130	11/16/2024 09:02	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,1,1-Trichloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,1,2,2-Tetrachloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,1,2-Trichloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,1-Dichloroethane	389		ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,1-Dichloroethene	528		ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,1-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,2,3-Trichlorobenzene	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,2,3-Trichloropropane	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,2,4-Trichlorobenzene	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,2-Dibromo-3-chloropropane	35.0 U	U	ug/L	35.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,2-Dibromoethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,2-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,2-Dichloroethane	13.2		ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,2-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,3-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,3-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
1,4-Dichlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
2,2-Dichloropropane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
2-Butanone	50.0 U	U	ug/L	50.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
2-Hexanone	25.0 U	U	ug/L	25.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
4-Methyl-2-Pentanone(MIBK)	25.0 U	U	ug/L	25.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Acetone	50.0 U	U	ug/L	50.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Benzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Bromobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Bromochloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Bromodichloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Bromoform	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Bromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Carbon Tetrachloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Chlorobenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Chlorodibromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Chloroethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Chloroform	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A



Results

Client Sample ID	MW-20	Collected	11/11/2024 15:40
Lab Sample ID	3387069022	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
cis-1,2-Dichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
cis-1,3-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Dibromomethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Dichlorodifluoromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Diisopropyl ether	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Ethylbenzene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Hexachlorobutadiene	25.0 U	U	ug/L	25.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Methyl t-Butyl Ether	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Methylene Chloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
mp-Xylene	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Naphthalene	10.0 U	U	ug/L	10.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
o-Chlorotoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
o-Xylene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
p-Chlorotoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
p-Isopropyltoluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Styrene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Tetrachloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Toluene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Total Xylenes	15.0 U	U	ug/L	15.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
trans-1,2-Dichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
trans-1,3-Dichloropropene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Trichloroethene	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Trichlorofluoromethane	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Vinyl Acetate	25.0 U	U	ug/L	25.0	SW846 8260D	5	11/22/2024 17:41	ILY	A
Vinyl Chloride	5.0 U	U	ug/L	5.0	SW846 8260D	5	11/22/2024 17:41	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	103%	62 - 133	11/22/2024 17:41	
4-Bromofluorobenzene	460-00-4	99.5%	79 - 114	11/22/2024 17:41	
Dibromofluoromethane	1868-53-7	98.6%	78 - 116	11/22/2024 17:41	
Toluene-d8	2037-26-5	99.9%	76 - 127	11/22/2024 17:41	



Results

Client Sample ID	MW-4R	Collected	11/11/2024 15:50
Lab Sample ID	3387069023	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	36.8		ug/L	5.0	SW846 8270E SIM	5	11/19/2024 12:19	S7M	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnapthalene-d10	7297-45-2	53.2%	29 - 112	11/19/2024 12:19	
Fluoranthene-d10	93951-69-0	73.1%	45 - 130	11/19/2024 12:19	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,1-Dichloroethane	32.6		ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,1-Dichloroethene	61.6		ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A



Results

Client Sample ID	MW-4R	Collected	11/11/2024 15:50
Lab Sample ID	3387069023	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 15:38	ILY	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:38	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	101%	62 - 133	11/22/2024 15:38	
4-Bromofluorobenzene	460-00-4	99.4%	79 - 114	11/22/2024 15:38	
Dibromofluoromethane	1868-53-7	96.3%	78 - 116	11/22/2024 15:38	
Toluene-d8	2037-26-5	99.1%	76 - 127	11/22/2024 15:38	



Results

Client Sample ID	MW-09	Collected	11/11/2024 16:00
Lab Sample ID	3387069024	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	2.2		ug/L	1.0	SW846 8270E SIM	1	11/18/2024 12:36	S7M	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	48.6%	29 - 112	11/18/2024 12:36	
Fluoranthene-d10	93951-69-0	60.4%	45 - 130	11/18/2024 12:36	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,1-Dichloroethane	1.1		ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,1-Dichloroethene	18.0		ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A



Results

Client Sample ID	MW-09	Collected	11/11/2024 16:00
Lab Sample ID	3387069024	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 15:59	ILY	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 15:59	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	104%	62 - 133	11/22/2024 15:59	
4-Bromofluorobenzene	460-00-4	101%	79 - 114	11/22/2024 15:59	
Dibromofluoromethane	1868-53-7	98.1%	78 - 116	11/22/2024 15:59	
Toluene-d8	2037-26-5	101%	76 - 127	11/22/2024 15:59	



Results

Client Sample ID	MW-23D	Collected	11/11/2024 16:15
Lab Sample ID	3387069025	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	34.1		ug/L	10.0	SW846 8270E SIM	10	11/19/2024 12:46	S7M	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	61.4%	29 - 112	11/18/2024 13:04	
2-Methylnaphthalene-d10	7297-45-2	0*%	29 - 112	11/19/2024 12:46	4
Fluoranthene-d10	93951-69-0	76.5%	45 - 130	11/18/2024 13:04	
Fluoranthene-d10	93951-69-0	72.8%	45 - 130	11/19/2024 12:46	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,1,1-Trichloroethane	4.6		ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,1-Dichloroethane	20.1		ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,1-Dichloroethene	77.6		ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A



Results

Client Sample ID	MW-23D	Collected	11/11/2024 16:15
Lab Sample ID	3387069025	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 16:19	ILY	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:19	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	103%	62 - 133	11/22/2024 16:19	
4-Bromofluorobenzene	460-00-4	101%	79 - 114	11/22/2024 16:19	
Dibromofluoromethane	1868-53-7	97.1%	78 - 116	11/22/2024 16:19	
Toluene-d8	2037-26-5	101%	76 - 127	11/22/2024 16:19	



Results

Client Sample ID	MW-16	Collected	11/11/2024 16:30
Lab Sample ID	3387069026	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	88.1		ug/L	29.4	SW846 8270E SIM	20	11/19/2024 13:13	S7M	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnapthalene-d10	7297-45-2	60.3%	29 - 112	11/18/2024 13:31	
2-Methylnapthalene-d10	7297-45-2	0*%	29 - 112	11/19/2024 13:13	5
Fluoranthene-d10	93951-69-0	76%	45 - 130	11/18/2024 13:31	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,1,1-Trichloroethane	767		ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,1,2,2-Tetrachloroethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,1,2-Trichloroethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,1-Dichloroethane	1030		ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,1-Dichloroethene	1490		ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,1-Dichloropropene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,2,3-Trichlorobenzene	40.0 U	U	ug/L	40.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,2,3-Trichloropropane	40.0 U	U	ug/L	40.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,2,4-Trichlorobenzene	40.0 U	U	ug/L	40.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,2-Dibromo-3-chloropropane	140 U	U	ug/L	140	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,2-Dibromoethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,2-Dichlorobenzene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,2-Dichloroethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,2-Dichloropropane	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,3-Dichlorobenzene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,3-Dichloropropane	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
1,4-Dichlorobenzene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
2,2-Dichloropropane	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
2-Butanone	200 U	U	ug/L	200	SW846 8260D	20	11/22/2024 18:22	ILY	A
2-Hexanone	100 U	U	ug/L	100	SW846 8260D	20	11/22/2024 18:22	ILY	A
4-Methyl-2-Pentanone(MIBK)	100 U	U	ug/L	100	SW846 8260D	20	11/22/2024 18:22	ILY	A
Acetone	200 U	U	ug/L	200	SW846 8260D	20	11/22/2024 18:22	ILY	A
Benzene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Bromobenzene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Bromochloromethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Bromodichloromethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Bromoform	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Bromomethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Carbon Tetrachloride	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Chlorobenzene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Chlorodibromomethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Chloroethane	35.4		ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Chloroform	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A



Results

Client Sample ID	MW-16	Collected	11/11/2024 16:30
Lab Sample ID	3387069026	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloromethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
cis-1,2-Dichloroethene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
cis-1,3-Dichloropropene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Dibromomethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Dichlorodifluoromethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Diisopropyl ether	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Ethylbenzene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Hexachlorobutadiene	100 U	U	ug/L	100	SW846 8260D	20	11/22/2024 18:22	ILY	A
Methyl t-Butyl Ether	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Methylene Chloride	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
mp-Xylene	40.0 U	U	ug/L	40.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Naphthalene	40.0 U	U	ug/L	40.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
o-Chlorotoluene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
o-Xylene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
p-Chlorotoluene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
p-Isopropyltoluene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Styrene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Tetrachloroethene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Toluene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Total Xylenes	60.0 U	U	ug/L	60.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
trans-1,2-Dichloroethene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
trans-1,3-Dichloropropene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Trichloroethene	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Trichlorofluoromethane	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A
Vinyl Acetate	100 U	U	ug/L	100	SW846 8260D	20	11/22/2024 18:22	ILY	A
Vinyl Chloride	20.0 U	U	ug/L	20.0	SW846 8260D	20	11/22/2024 18:22	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	101%	62 - 133	11/22/2024 18:22	
4-Bromofluorobenzene	460-00-4	99.5%	79 - 114	11/22/2024 18:22	
Dibromofluoromethane	1868-53-7	98.5%	78 - 116	11/22/2024 18:22	
Toluene-d8	2037-26-5	99.2%	76 - 127	11/22/2024 18:22	



Results

Client Sample ID	MW-16D	Collected	11/11/2024 16:40
Lab Sample ID	3387069027	Lab Receipt	11/11/2024 17:33

SEMIVOLATILE SIM

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	21.6		ug/L	5.2	SW846 8270E SIM	5	11/19/2024 13:40	S7M	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	54%	29 – 112	11/18/2024 13:59	
2-Methylnaphthalene-d10	7297-45-2	61.4%	29 – 112	11/19/2024 13:40	
Fluoranthene-d10	93951-69-0	78.1%	45 – 130	11/18/2024 13:59	
Fluoranthene-d10	93951-69-0	73.7%	45 – 130	11/19/2024 13:40	

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,1,1-Trichloroethane	3.5		ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,1-Dichloroethane	16.8		ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,1-Dichloroethene	68.2		ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A



Results

Client Sample ID	MW-16D	Collected	11/11/2024 16:40
Lab Sample ID	3387069027	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 16:40	ILY	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 16:40	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	103%	62 - 133	11/22/2024 16:40	
4-Bromofluorobenzene	460-00-4	101%	79 - 114	11/22/2024 16:40	
Dibromofluoromethane	1868-53-7	99.4%	78 - 116	11/22/2024 16:40	
Toluene-d8	2037-26-5	99.8%	76 - 127	11/22/2024 16:40	



Results

Client Sample ID	Trip Blank C	Collected	11/11/2024 00:00
Lab Sample ID	3387069028	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,1,1-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,1,2,2-Tetrachloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,1,2-Trichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,1-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,1-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,1-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,2,3-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,2,3-Trichloropropane	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,2,4-Trichlorobenzene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,2-Dibromo-3-chloropropane	7.0 U	U	ug/L	7.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,2-Dibromoethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,2-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,2-Dichloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,3-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,3-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
1,4-Dichlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
2,2-Dichloropropane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
2-Butanone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
2-Hexanone	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
4-Methyl-2-Pentanone(MIBK)	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Acetone	10.0 U	U	ug/L	10.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Benzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Bromobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Bromochloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Bromodichloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Bromoform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Bromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Carbon Tetrachloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Chlorobenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Chlorodibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Chloroethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Chloroform	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Chloromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
cis-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
cis-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Dibromomethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Dichlorodifluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Diisopropyl ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Ethylbenzene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Hexachlorobutadiene	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Methyl t-Butyl Ether	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Methylene Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
mp-Xylene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Naphthalene	2.0 U	U	ug/L	2.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
o-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A



Results

Client Sample ID	Trip Blank C	Collected	11/11/2024 00:00
Lab Sample ID	3387069028	Lab Receipt	11/11/2024 17:33

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
o-Xylene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
p-Chlorotoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
p-Isopropyltoluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Styrene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Tetrachloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Toluene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Total Xylenes	3.0 U	U	ug/L	3.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
trans-1,2-Dichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
trans-1,3-Dichloropropene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Trichloroethene	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Trichlorofluoromethane	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Vinyl Acetate	5.0 U	U	ug/L	5.0	SW846 8260D	1	11/22/2024 12:14	ILY	A
Vinyl Chloride	1.0 U	U	ug/L	1.0	SW846 8260D	1	11/22/2024 12:14	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	103%	62 – 133	11/22/2024 12:14	
4-Bromofluorobenzene	460-00-4	101%	79 – 114	11/22/2024 12:14	
Dibromofluoromethane	1868-53-7	98.3%	78 – 116	11/22/2024 12:14	
Toluene-d8	2037-26-5	101%	76 – 127	11/22/2024 12:14	



Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3387069001	MW-03	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069002	MW-27 D	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069003	MW-43	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069004	MW-39	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069005	MW-42	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069006	MW-18	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069007	MW-38R	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069008	RW-1S	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069009	RW-2S	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069010	Trip Blank A	SW846 8260D	N/A	
3387069011	MW-5R	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069012	MW-40 D	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069013	MW-100	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069014	MW-44	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069015	MW-21D	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069016	RW-1D	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069017	MW-41D	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069018	Trip Blank B	SW846 8260D	N/A	
3387069019	MW-01D	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069020	MW-01	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069021	MW-22D	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069022	MW-20	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069023	MW-4R	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069024	MW-09	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069025	MW-23D	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	



Project **Kop Flex On Site**
Workorder **3387069**

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3387069026	MW-16	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069027	MW-16D	SW846 8270E SIM SW846 8260D	SW846 3510C N/A	
3387069028	Trip Blank C	SW846 8260D	N/A	



QUALITY CONTROL SAMPLES

SEMIVOLATILE SIM

QC Batch			
QC Batch	1332155	Prep Method	SW846 3510C
Date	11/14/2024 09:10	Analysis Method	SW846 8270E SIM
Tech.	DEC		

Associated Samples			
3387069001	3387069005	3387069002	3387069006
3387069007	3387069003	3387069008	3387069004
3387069009	3387069019	3387069011	3387069020
3387069012	3387069021	3387069022	3387069013
3387069014	3387069015	3387069016	3387069017

Method Blank 3905189 (MB) Created on 11/14/2024 07:17 For QC Batch 1332155

RESULTS

Compound	CAS No	Result	Units	RDL	Qualifiers
1,4-Dioxane	123-91-1	BLK	1.0 U ug/L	1.0	U

SURROGATES

Compound	CAS No	Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	BLK	0.56	1	55.9	29 - 112
Fluoranthene-d10	93951-69-0	BLK	0.78	1	78.3	45 - 130

Lab Control Standard 3905190 (LCS) Created on 11/14/2024 07:17 For QC Batch 1332155

RESULTS

Compound	CAS No	Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,4-Dioxane	123-91-1	LCS	0.62	1	61.8	22 - 75		U

SURROGATES

Compound	CAS No	Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	LCS	0.66	1	66.1	29 - 112
Fluoranthene-d10	93951-69-0	LCS	0.94	1	94	45 - 130

Matrix Spike 3905191 (MS) 3387069014 For QC Batch 1332155

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3905192 (MSD) 3387069014 For QC Batch 1332155

RESULTS

Compound	CAS No	Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,4-Dioxane	123-91-1	MS	3.4	2.80	1	62.6	22 - 75	
1,4-Dioxane	123-91-1	MSD	3.4	2.80	1	57.3	22 - 75	RPD <u>2.33</u> (Max-30)



QUALITY CONTROL SAMPLES

SEMIVOLATILE SIM (cont.)

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	MS	0.69	1	66.3	29 - 112	
2-Methylnaphthalene-d10	7297-45-2	MSD	0.67	1	66.8	29 - 112	
Fluoranthene-d10	93951-69-0	MS	0.7	1	67.3	45 - 130	
Fluoranthene-d10	93951-69-0	MSD	0.72	1	72.5	45 - 130	

QC Batch		Prep Method	
QC Batch	1332545	Prep Method	SW846 3510C
Date	11/15/2024 08:20	Analysis Method	SW846 8270E SIM
Tech.	DEC		

Associated Samples			
3387069026	3387069027	3387069023	3387069024
3387069025			

Matrix Spike 3905828 (MS) 3387075001 (non-Project Sample) For QC Batch 1332545

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,4-Dioxane	123-91-1	MS	0.68	0	1	68	22 - 75		U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	MS	0.7	1	70.5	29 - 112	
Fluoranthene-d10	93951-69-0	MS	0.87	1	87.3	45 - 130	

Duplicate 3905829 (DUP) 3387075003 (non-Project Sample) For QC Batch 1332545

****NOTE - The Original Result and Duplicate Result shown below are raw results and are only used for the purpose of calculating Sample Duplicate percent recoveries. This result is not a final value and cannot be used as such.

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Qualifiers
1,4-Dioxane	123-91-1	DUP	3.7262	3.8990	RPD <u>4.53</u> (Max-30)

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	DUP	0.53	1	53.2	29 - 112	
Fluoranthene-d10	93951-69-0	DUP	0.69	1	68.9	45 - 130	



QUALITY CONTROL SAMPLES

SEMIVOLATILE SIM (cont.)

Method Blank 3905826 (MB) Created on 11/15/2024 06:47 For QC Batch 1332545

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
1,4-Dioxane	123-91-1	BLK	1.0 U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	BLK	0.54	1	54.4	29 - 112	
Fluoranthene-d10	93951-69-0	BLK	0.78	1	77.6	45 - 130	

Lab Control Standard 3905827 (LCS) Created on 11/15/2024 06:47 For QC Batch 1332545

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,4-Dioxane	123-91-1	LCS	0.48		1	47.8	22 - 75		U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Methylnaphthalene-d10	7297-45-2	LCS	0.47	1	47.4	29 - 112	
Fluoranthene-d10	93951-69-0	LCS	0.67	1	66.9	45 - 130	



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS

QC Batch			
QC Batch	1332651	Prep Method	N/A
Date	N/A	Analysis Method	SW846 8260D
Tech.			

Associated Samples			
3387069004	3387069001	3387069005	3387069002
3387069006	3387069007	3387069003	3387069008
3387069009	3387069010		

Duplicate 3908263 (DUP) 3387167001 (non-Project Sample) For QC Batch 1332651

****NOTE - The Original Result and Duplicate Result shown below are raw results and are only used for the purpose of calculating Sample Duplicate percent recoveries. This result is not a final value and cannot be used as such.

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)		Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	DUP	0	0	RPD	0 (Max-) U
1,1,1-Trichloroethane	71-55-6	DUP	0	0	RPD	0 (Max-) U
1,1,2,2-Tetrachloroethane	79-34-5	DUP	0	0	RPD	0 (Max-) U
1,1,2-Trichloroethane	79-00-5	DUP	0	0	RPD	0 (Max-) U
1,1-Dichloroethane	75-34-3	DUP	0	0	RPD	0 (Max-) U
1,1-Dichloroethene	75-35-4	DUP	0	0	RPD	0 (Max-) U
1,1-Dichloropropene	563-58-6	DUP	0	0	RPD	0 (Max-) U
1,2,3-Trichlorobenzene	87-61-6	DUP	0	0	RPD	0 (Max-) U
1,2,3-Trichloropropane	96-18-4	DUP	0	0	RPD	0 (Max-) U
1,2,4-Trichlorobenzene	120-82-1	DUP	0	0	RPD	0 (Max-) U
1,2-Dibromo-3-chloropropane	96-12-8	DUP	0	0	RPD	0 (Max-) U
1,2-Dibromoethane	106-93-4	DUP	0	0	RPD	0 (Max-) U
1,2-Dichlorobenzene	95-50-1	DUP	0	0	RPD	0 (Max-) U
1,2-Dichloroethane	107-06-2	DUP	0	0	RPD	0 (Max-) U
1,2-Dichloropropane	78-87-5	DUP	0	0	RPD	0 (Max-) U
1,3-Dichlorobenzene	541-73-1	DUP	0	0	RPD	0 (Max-) U
1,3-Dichloropropane	142-28-9	DUP	0	0	RPD	0 (Max-) U
1,4-Dichlorobenzene	106-46-7	DUP	0	0.2925	RPD	200 (Max-) U
2,2-Dichloropropane	594-20-7	DUP	0	0	RPD	0 (Max-) U
2-Butanone	78-93-3	DUP	0	0	RPD	0 (Max-) U
2-Hexanone	591-78-6	DUP	0	0	RPD	0 (Max-) U
4-Methyl-2-Pentanone(MIBK)	108-10-1	DUP	0	0	RPD	0 (Max-) U
Acetone	67-64-1	DUP	5.6108	5.2554	RPD	6.54 (Max-) U
Benzene	71-43-2	DUP	0	0	RPD	0 (Max-) U
Bromobenzene	108-86-1	DUP	0	0	RPD	0 (Max-) U
Bromochloromethane	74-97-5	DUP	0	0	RPD	0 (Max-) U
Bromodichloromethane	75-27-4	DUP	5.2421	5.2621	RPD	0.38 (Max-) U
Bromoform	75-25-2	DUP	0	0	RPD	0 (Max-) U
Bromomethane	74-83-9	DUP	0.7982	0.6739	RPD	16.90 (Max-) U
Carbon Tetrachloride	56-23-5	DUP	0	0	RPD	0 (Max-) U
Chlorobenzene	108-90-7	DUP	0	0	RPD	0 (Max-) U
Chlorodibromomethane	124-48-1	DUP	2.0280	2.0126	RPD	0.76 (Max-) U
Chloroethane	75-00-3	DUP	0	0	RPD	0 (Max-) U
Chloroform	67-66-3	DUP	6.6395	6.6845	RPD	0.68 (Max-) U
Chloromethane	74-87-3	DUP	0	0	RPD	0 (Max-) U



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)			Qualifiers
cis-1,2-Dichloroethene	156-59-2	DUP	0	0	RPD	0 (Max-)	U
cis-1,3-Dichloropropene	10061-01-5	DUP	0	0	RPD	0 (Max-)	U
Dibromomethane	74-95-3	DUP	0	0	RPD	0 (Max-)	U
Dichlorodifluoromethane	75-71-8	DUP	0	0	RPD	0 (Max-)	U
Diisopropyl ether	108-20-3	DUP	0	0	RPD	0 (Max-)	U
Ethylbenzene	100-41-4	DUP	0	0	RPD	0 (Max-)	U
Hexachlorobutadiene	87-68-3	DUP	0	0	RPD	0 (Max-)	U
Methyl t-Butyl Ether	1634-04-4	DUP	0	0	RPD	0 (Max-)	U
Methylene Chloride	75-09-2	DUP	0	0	RPD	0 (Max-)	U
mp-Xylene	108383/106423	DUP	0	0	RPD	0 (Max-)	U
Naphthalene	91-20-3	DUP	0	0	RPD	0 (Max-)	U
o-Chlorotoluene	95-49-8	DUP	0	0	RPD	0 (Max-)	U
o-Xylene	95-47-6	DUP	0	0	RPD	0 (Max-)	U
p-Chlorotoluene	106-43-4	DUP	0	0	RPD	0 (Max-)	U
p-Isopropyltoluene	99-87-6	DUP	0	0	RPD	0 (Max-)	U
Styrene	100-42-5	DUP	0	0	RPD	0 (Max-)	U
Tetrachloroethene	127-18-4	DUP	0	0	RPD	0 (Max-)	U
Toluene	108-88-3	DUP	0	0	RPD	0 (Max-)	U
Total Xylenes	1330-20-7	DUP	0	0	RPD	0 (Max-)	U
trans-1,2-Dichloroethene	156-60-5	DUP	0	0	RPD	0 (Max-)	U
trans-1,3-Dichloropropene	10061-02-6	DUP	0	0	RPD	0 (Max-)	U
Trichloroethene	79-01-6	DUP	0	0	RPD	0 (Max-)	U
Trichlorofluoromethane	75-69-4	DUP	0	0	RPD	0 (Max-)	U
Vinyl Acetate	108-05-4	DUP	0	0	RPD	0 (Max-)	U
Vinyl Chloride	75-01-4	DUP	0	0	RPD	0 (Max-)	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	DUP	31	30	103	62 - 133	
4-Bromofluorobenzene	460-00-4	DUP	30.3	30	101	79 - 114	
Dibromofluoromethane	1868-53-7	DUP	29.3	30	97.7	78 - 116	
Toluene-d8	2037-26-5	DUP	29.9	30	99.7	76 - 127	

Method Blank

3905933 (MB)

Created on 11/15/2024 09:27

For QC Batch 1332651

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	BLK	1.0	U ug/L	1.0	U
1,1,1-Trichloroethane	71-55-6	BLK	1.0	U ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	1.0	U ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5	BLK	1.0	U ug/L	1.0	U
1,1-Dichloroethane	75-34-3	BLK	1.0	U ug/L	1.0	U
1,1-Dichloroethene	75-35-4	BLK	1.0	U ug/L	1.0	U
1,1-Dichloropropene	563-58-6	BLK	1.0	U ug/L	1.0	U



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
1,2,3-Trichlorobenzene	87-61-6	BLK	2.0 U	ug/L	2.0	U
1,2,3-Trichloropropane	96-18-4	BLK	2.0 U	ug/L	2.0	U
1,2,4-Trichlorobenzene	120-82-1	BLK	2.0 U	ug/L	2.0	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	7.0 U	ug/L	7.0	U
1,2-Dibromoethane	106-93-4	BLK	1.0 U	ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	1.0 U	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	1.0 U	ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	1.0 U	ug/L	1.0	U
1,3-Dichlorobenzene	541-73-1	BLK	1.0 U	ug/L	1.0	U
1,3-Dichloropropane	142-28-9	BLK	1.0 U	ug/L	1.0	U
1,4-Dichlorobenzene	106-46-7	BLK	1.0 U	ug/L	1.0	U
2,2-Dichloropropane	594-20-7	BLK	1.0 U	ug/L	1.0	U
2-Butanone	78-93-3	BLK	10.0 U	ug/L	10.0	U
2-Hexanone	591-78-6	BLK	5.0 U	ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	5.0 U	ug/L	5.0	U
Acetone	67-64-1	BLK	10.0 U	ug/L	10.0	U
Benzene	71-43-2	BLK	1.0 U	ug/L	1.0	U
Bromobenzene	108-86-1	BLK	1.0 U	ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	1.0 U	ug/L	1.0	U
Bromodichloromethane	75-27-4	BLK	1.0 U	ug/L	1.0	U
Bromoform	75-25-2	BLK	1.0 U	ug/L	1.0	U
Bromomethane	74-83-9	BLK	1.0 U	ug/L	1.0	U
Carbon Tetrachloride	56-23-5	BLK	1.0 U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	1.0 U	ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	1.0 U	ug/L	1.0	U
Chloroethane	75-00-3	BLK	1.0 U	ug/L	1.0	U
Chloroform	67-66-3	BLK	1.0 U	ug/L	1.0	U
Chloromethane	74-87-3	BLK	1.0 U	ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	1.0 U	ug/L	1.0	U
cis-1,3-Dichloropropene	10061-01-5	BLK	1.0 U	ug/L	1.0	U
Dibromomethane	74-95-3	BLK	1.0 U	ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	1.0 U	ug/L	1.0	U
Diisopropyl ether	108-20-3	BLK	1.0 U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	1.0 U	ug/L	1.0	U
Hexachlorobutadiene	87-68-3	BLK	5.0 U	ug/L	5.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	1.0 U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	1.0 U	ug/L	1.0	U
mp-Xylene	108383/106423	BLK	2.0 U	ug/L	2.0	U
Naphthalene	91-20-3	BLK	2.0 U	ug/L	2.0	U
o-Chlorotoluene	95-49-8	BLK	1.0 U	ug/L	1.0	U
o-Xylene	95-47-6	BLK	1.0 U	ug/L	1.0	U
p-Chlorotoluene	106-43-4	BLK	1.0 U	ug/L	1.0	U
p-Isopropyltoluene	99-87-6	BLK	1.0 U	ug/L	1.0	U
Styrene	100-42-5	BLK	1.0 U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	1.0 U	ug/L	1.0	U
Toluene	108-88-3	BLK	1.0 U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	3.0 U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	1.0 U	ug/L	1.0	U



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
trans-1,3-Dichloropropene	10061-02-6	BLK	1.0 U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	1.0 U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	1.0 U	ug/L	1.0	U
Vinyl Acetate	108-05-4	BLK	5.0 U	ug/L	5.0	U
Vinyl Chloride	75-01-4	BLK	1.0 U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	30.9	30	103	62 - 133	
4-Bromofluorobenzene	460-00-4	BLK	31	30	103	79 - 114	
Dibromofluoromethane	1868-53-7	BLK	29.5	30	98.2	78 - 116	
Toluene-d8	2037-26-5	BLK	30.6	30	102	76 - 127	

Lab Control Standard

3905934 (LCS)

Created on 11/15/2024 09:27

For QC Batch 1332651

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	LCS	22.3		20	112	78 - 121		
1,1,1-Trichloroethane	71-55-6	LCS	23.1		20	116	66 - 130		
1,1,2,2-Tetrachloroethane	79-34-5	LCS	22.8		20	114	74 - 135		
1,1,2-Trichloroethane	79-00-5	LCS	21.9		20	109	82 - 126		
1,1-Dichloroethane	75-34-3	LCS	20.6		20	103	78 - 124		
1,1-Dichloroethene	75-35-4	LCS	22		20	110	63 - 128		
1,1-Dichloropropene	563-58-6	LCS	22.1		20	111	76 - 126		
1,2,3-Trichlorobenzene	87-61-6	LCS	21.5		20	107	61 - 126		
1,2,3-Trichloropropane	96-18-4	LCS	22.2		20	111	75 - 132		
1,2,4-Trichlorobenzene	120-82-1	LCS	23.5		20	118	67 - 123		
1,2-Dibromo-3-chloropropane	96-12-8	LCS	21		20	105	59 - 133		
1,2-Dibromoethane	106-93-4	LCS	22.6		20	113	80 - 124		
1,2-Dichlorobenzene	95-50-1	LCS	20.8		20	104	82 - 118		
1,2-Dichloroethane	107-06-2	LCS	20.1		20	101	70 - 133		
1,2-Dichloropropane	78-87-5	LCS	20.4		20	102	81 - 127		
1,3-Dichlorobenzene	541-73-1	LCS	20.7		20	103	81 - 118		
1,3-Dichloropropane	142-28-9	LCS	21.8		20	109	82 - 126		
1,4-Dichlorobenzene	106-46-7	LCS	20.6		20	103	81 - 116		
2,2-Dichloropropane	594-20-7	LCS	25		20	125	64 - 129		
2-Butanone	78-93-3	LCS	117		100	117	50 - 152		
2-Hexanone	591-78-6	LCS	115		100	115	65 - 154		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	107		100	107	71 - 146		
Acetone	67-64-1	LCS	124		100	124	40 - 151		
Benzene	71-43-2	LCS	20.7		20	104	80 - 124		
Bromobenzene	108-86-1	LCS	21.5		20	107	81 - 119		
Bromochloromethane	74-97-5	LCS	21.2		20	106	73 - 117		
Bromodichloromethane	75-27-4	LCS	22.2		20	111	79 - 126		



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Bromoform	75-25-2	LCS	18.8		20	93.9	70 - 123		
Bromomethane	74-83-9	LCS	17.8		20	89.2	45 - 148		
Carbon Tetrachloride	56-23-5	LCS	20.8		20	104	62 - 132		
Chlorobenzene	108-90-7	LCS	21.4		20	107	85 - 117		
Chlorodibromomethane	124-48-1	LCS	18.8		20	94	77 - 122		
Chloroethane	75-00-3	LCS	22		20	110	51 - 142		
Chloroform	67-66-3	LCS	20.4		20	102	78 - 122		
Chloromethane	74-87-3	LCS	20.8		20	104	38 - 156		
cis-1,2-Dichloroethene	156-59-2	LCS	20.9		20	104	78 - 125		
cis-1,3-Dichloropropene	10061-01-5	LCS	22.3		20	112	81 - 121		
Dibromomethane	74-95-3	LCS	20.9		20	105	81 - 125		
Dichlorodifluoromethane	75-71-8	LCS	22.5		20	113	17 - 166		
Diisopropyl ether	108-20-3	LCS	20.6		20	103	74 - 131		
Ethylbenzene	100-41-4	LCS	22.3		20	112	80 - 124		
Hexachlorobutadiene	87-68-3	LCS	27.7		20	139*	55 - 128		
Methyl t-Butyl Ether	1634-04-4	LCS	21.8		20	109	69 - 115		
Methylene Chloride	75-09-2	LCS	20.6		20	103	76 - 121		
mp-Xylene	108383/106423	LCS	44.8		40	112	79 - 125		
Naphthalene	91-20-3	LCS	20.5		20	102	56 - 134		
o-Chlorotoluene	95-49-8	LCS	21.8		20	109	78 - 126		
o-Xylene	95-47-6	LCS	21.8		20	109	79 - 124		
p-Chlorotoluene	106-43-4	LCS	21.8		20	109	78 - 125		
p-Isopropyltoluene	99-87-6	LCS	23.4		20	117	72 - 123		
Styrene	100-42-5	LCS	23.2		20	116	79 - 123		
Tetrachloroethene	127-18-4	LCS	21.2		20	106	72 - 124		
Toluene	108-88-3	LCS	21.8		20	109	80 - 125		
Total Xylenes	1330-20-7	LCS	66.6		60	111	79 - 125		
trans-1,2-Dichloroethene	156-60-5	LCS	21		20	105	71 - 122		
trans-1,3-Dichloropropene	10061-02-6	LCS	20		20	100	78 - 126		
Trichloroethene	79-01-6	LCS	20.5		20	102	77 - 124		
Trichlorofluoromethane	75-69-4	LCS	24.4		20	122	38 - 123		
Vinyl Acetate	108-05-4	LCS	19.4		20	97.2	58 - 136		
Vinyl Chloride	75-01-4	LCS	23.5		20	118	27 - 138		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	29.4	30	98	62 - 133	
4-Bromofluorobenzene	460-00-4	LCS	29.7	30	98.9	79 - 114	
Dibromofluoromethane	1868-53-7	LCS	30.2	30	101	78 - 116	
Toluene-d8	2037-26-5	LCS	30.2	30	101	76 - 127	

Matrix Spike 3908264 (MS) 3387069006 For QC Batch 1332651

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	MS	22.8	0	20	114	78 - 121		
1,1,1-Trichloroethane	71-55-6	MS	23.8	0	20	119	66 - 130		
1,1,2,2-Tetrachloroethane	79-34-5	MS	22.8	0	20	114	74 - 135		
1,1,2-Trichloroethane	79-00-5	MS	22.1	0	20	111	82 - 126		
1,1-Dichloroethane	75-34-3	MS	21.7	0	20	109	78 - 124		
1,1-Dichloroethene	75-35-4	MS	22.3	0	20	112	63 - 128		
1,1-Dichloropropene	563-58-6	MS	21.7	0	20	108	76 - 126		
1,2,3-Trichlorobenzene	87-61-6	MS	19.6	0	20	98.2	61 - 126		
1,2,3-Trichloropropane	96-18-4	MS	22	0	20	110	75 - 132		
1,2,4-Trichlorobenzene	120-82-1	MS	22.5	0	20	113	67 - 123		
1,2-Dibromo-3-chloropropane	96-12-8	MS	20.9	0	20	104	59 - 133		
1,2-Dibromoethane	106-93-4	MS	22.2	0	20	111	80 - 124		
1,2-Dichlorobenzene	95-50-1	MS	21.9	0	20	109	82 - 118		
1,2-Dichloroethane	107-06-2	MS	20.5	0	20	102	70 - 133		
1,2-Dichloropropane	78-87-5	MS	21.4	0	20	107	81 - 127		
1,3-Dichlorobenzene	541-73-1	MS	20.6	0	20	103	81 - 118		
1,3-Dichloropropane	142-28-9	MS	22	0	20	110	82 - 126		
1,4-Dichlorobenzene	106-46-7	MS	20.8	0	20	104	81 - 116		
2,2-Dichloropropane	594-20-7	MS	22.4	0	20	112	64 - 129		
2-Butanone	78-93-3	MS	95.4	0	100	95.4	50 - 152		
2-Hexanone	591-78-6	MS	101	0	100	101	65 - 154		
4-Methyl-2-Pentanone(MIBK)	108-10-1	MS	102	0	100	102	71 - 146		
Acetone	67-64-1	MS	82.5	0	100	82.5	40 - 151		
Benzene	71-43-2	MS	21.7	0	20	108	80 - 124		
Bromobenzene	108-86-1	MS	21.8	0	20	109	81 - 119		
Bromochloromethane	74-97-5	MS	22.1	0	20	111	73 - 117		
Bromodichloromethane	75-27-4	MS	22.5	0	20	113	79 - 126		
Bromoform	75-25-2	MS	18.2	0	20	90.8	70 - 123		
Bromomethane	74-83-9	MS	17.5	0	20	87.6	45 - 148		
Carbon Tetrachloride	56-23-5	MS	21.4	0	20	107	62 - 132		
Chlorobenzene	108-90-7	MS	21.8	0	20	109	85 - 117		
Chlorodibromomethane	124-48-1	MS	18.7	0	20	93.4	77 - 122		
Chloroethane	75-00-3	MS	24.1	0	20	120	51 - 142		
Chloroform	67-66-3	MS	20.9	0	20	105	78 - 122		
Chloromethane	74-87-3	MS	19.8	0	20	99.1	38 - 156		
cis-1,2-Dichloroethene	156-59-2	MS	21.9	0	20	109	78 - 125		
cis-1,3-Dichloropropene	10061-01-5	MS	22.3	0	20	111	81 - 121		
Dibromomethane	74-95-3	MS	21.1	0	20	105	81 - 125		
Dichlorodifluoromethane	75-71-8	MS	20.2	0	20	101	17 - 166		
Diisopropyl ether	108-20-3	MS	21.2	0	20	106	74 - 131		
Ethylbenzene	100-41-4	MS	22.4	0	20	112	80 - 124		
Hexachlorobutadiene	87-68-3	MS	20.2	0	20	101	55 - 128		
Methyl t-Butyl Ether	1634-04-4	MS	21.3	0	20	106	69 - 115		
Methylene Chloride	75-09-2	MS	21.2	0	20	106	76 - 121		
mp-Xylene	108383/106423	MS	45.1	0	40	113	79 - 125		
Naphthalene	91-20-3	MS	19.8	0	20	99.1	56 - 134		
o-Chlorotoluene	95-49-8	MS	22.4	0	20	112	78 - 126		



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
o-Xylene	95-47-6	MS	22.3	0	20	112	79 - 124		
p-Chlorotoluene	106-43-4	MS	22.1	0	20	110	78 - 125		
p-Isopropyltoluene	99-87-6	MS	21.9	0	20	109	72 - 123		
Styrene	100-42-5	MS	24	0	20	120	79 - 123		
Tetrachloroethene	127-18-4	MS	18.9	0	20	94.4	72 - 124		
Toluene	108-88-3	MS	22.2	0	20	111	80 - 125		
Total Xylenes	1330-20-7	MS	67.4	0	60	112	79 - 125		
trans-1,2-Dichloroethene	156-60-5	MS	21.5	0	20	108	71 - 122		
trans-1,3-Dichloropropene	10061-02-6	MS	19.6	0	20	98.1	78 - 126		
Trichloroethene	79-01-6	MS	20.8	0	20	104	77 - 124		
Trichlorofluoromethane	75-69-4	MS	22.6	0	20	113	38 - 123		
Vinyl Acetate	108-05-4	MS	17.5	0	20	87.7	58 - 136		
Vinyl Chloride	75-01-4	MS	22.6	0	20	113	27 - 138		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	MS	32	30	107	62 - 133	
4-Bromofluorobenzene	460-00-4	MS	31	30	103	79 - 114	
Dibromofluoromethane	1868-53-7	MS	30.8	30	103	78 - 116	
Toluene-d8	2037-26-5	MS	30.7	30	102	76 - 127	

QC Batch

Associated Samples

<u>QC Batch</u>	1337882	<u>Prep Method</u>	N/A
<u>Date</u>	N/A	<u>Analysis Method</u>	SW846 8260D
<u>Tech.</u>			

3387069017	3387069026	3387069018	3387069027
3387069019	3387069028	3387069011	3387069020
3387069012	3387069021	3387069013	3387069022
3387069023	3387069014	3387069015	3387069024
3387069025	3387069016		

Matrix Spike 3905935 (MS) 3387069014 For QC Batch 1337882

***NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3905936 (MSD) 3387069014 For QC Batch 1337882

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	MS	22.8	0	20	114	78 - 121		
1,1,1,2-Tetrachloroethane	630-20-6	MSD	22.9	0	20	114	78 - 121	RPD <u>0.40</u> (Max-16)	
1,1,1-Trichloroethane	71-55-6	MS	24.9	2	20	114	66 - 130		
1,1,1-Trichloroethane	71-55-6	MSD	24.7	2	20	114	66 - 130	RPD <u>0.64</u> (Max-20)	
1,1,2,2-Tetrachloroethane	79-34-5	MS	22.5	0	20	113	74 - 135		



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,2,2-Tetrachloroethane	79-34-5	MSD	22.7	0	20	114	74 - 135	RPD <u>0.84</u> (Max-16)	
1,1,2-Trichloroethane	79-00-5	MS	22.9	0	20	114	82 - 126		
1,1,2-Trichloroethane	79-00-5	MSD	23	0	20	115	82 - 126	RPD <u>0.37</u> (Max-15)	
1,1-Dichloroethane	75-34-3	MS	23.9	1.60	20	111	78 - 124		
1,1-Dichloroethane	75-34-3	MSD	23.4	1.60	20	109	78 - 124	RPD <u>2.10</u> (Max-15)	
1,1-Dichloroethene	75-35-4	MS	23.8	2	20	109	63 - 128		
1,1-Dichloroethene	75-35-4	MSD	23.3	2	20	107	63 - 128	RPD <u>1.98</u> (Max-21)	
1,1-Dichloropropene	563-58-6	MS	21.7	0	20	109	76 - 126		
1,1-Dichloropropene	563-58-6	MSD	21.5	0	20	107	76 - 126	RPD <u>1.22</u> (Max-16)	
1,2,3-Trichlorobenzene	87-61-6	MS	20.1	0	20	101	61 - 126		
1,2,3-Trichlorobenzene	87-61-6	MSD	20.1	0	20	101	61 - 126	RPD <u>0.09</u> (Max-36)	
1,2,3-Trichloropropane	96-18-4	MS	21.6	0	20	108	75 - 132		
1,2,3-Trichloropropane	96-18-4	MSD	22.4	0	20	112	75 - 132	RPD <u>3.29</u> (Max-19)	
1,2,4-Trichlorobenzene	120-82-1	MS	23	0	20	115	67 - 123		
1,2,4-Trichlorobenzene	120-82-1	MSD	23.1	0	20	116	67 - 123	RPD <u>0.62</u> (Max-22)	
1,2-Dibromo-3-chloropropane	96-12-8	MS	19.9	0	20	99.5	59 - 133		
1,2-Dibromo-3-chloropropane	96-12-8	MSD	19.8	0	20	99.2	59 - 133	RPD <u>0.31</u> (Max-26)	
1,2-Dibromoethane	106-93-4	MS	22.9	0	20	115	80 - 124		
1,2-Dibromoethane	106-93-4	MSD	22.5	0	20	113	80 - 124	RPD <u>1.74</u> (Max-19)	
1,2-Dichlorobenzene	95-50-1	MS	21.8	0	20	109	82 - 118		
1,2-Dichlorobenzene	95-50-1	MSD	21.3	0	20	107	82 - 118	RPD <u>2.33</u> (Max-15)	
1,2-Dichloroethane	107-06-2	MS	20.9	0	20	104	70 - 133		
1,2-Dichloroethane	107-06-2	MSD	20.7	0	20	103	70 - 133	RPD <u>0.97</u> (Max-19)	
1,2-Dichloropropane	78-87-5	MS	21.5	0	20	107	81 - 127		
1,2-Dichloropropane	78-87-5	MSD	21.3	0	20	106	81 - 127	RPD <u>1.03</u> (Max-15)	
1,3-Dichlorobenzene	541-73-1	MS	20.9	0	20	104	81 - 118		
1,3-Dichlorobenzene	541-73-1	MSD	21	0	20	105	81 - 118	RPD <u>0.74</u> (Max-16)	
1,3-Dichloropropane	142-28-9	MS	22.6	0	20	113	82 - 126		
1,3-Dichloropropane	142-28-9	MSD	22.4	0	20	112	82 - 126	RPD <u>0.75</u> (Max-15)	
1,4-Dichlorobenzene	106-46-7	MS	21.5	0	20	107	81 - 116		
1,4-Dichlorobenzene	106-46-7	MSD	20.9	0	20	104	81 - 116	RPD <u>2.93</u> (Max-15)	
2,2-Dichloropropane	594-20-7	MS	24	0	20	120	64 - 129		
2,2-Dichloropropane	594-20-7	MSD	24.1	0	20	120	64 - 129	RPD <u>0.20</u> (Max-18)	
2-Butanone	78-93-3	MS	108	0	100	108	50 - 152		
2-Butanone	78-93-3	MSD	104	0	100	104	50 - 152	RPD <u>3.42</u> (Max-16)	
2-Hexanone	591-78-6	MS	107	0	100	107	65 - 154		
2-Hexanone	591-78-6	MSD	106	0	100	106	65 - 154	RPD <u>1.06</u> (Max-17)	
4-Methyl-2-Pentanone(MIBK)	108-10-1	MS	107	0	100	107	71 - 146		
4-Methyl-2-Pentanone(MIBK)	108-10-1	MSD	107	0	100	107	71 - 146	RPD <u>0.52</u> (Max-16)	
Acetone	67-64-1	MS	93.2	0	100	93.2	40 - 151		
Acetone	67-64-1	MSD	91.2	0	100	91.2	40 - 151	RPD <u>2.11</u> (Max-40)	
Benzene	71-43-2	MS	21.9	0	20	110	80 - 124		
Benzene	71-43-2	MSD	21.6	0	20	108	80 - 124	RPD <u>1.35</u> (Max-26)	
Bromobenzene	108-86-1	MS	21.9	0	20	110	81 - 119		
Bromobenzene	108-86-1	MSD	21.7	0	20	109	81 - 119	RPD <u>0.87</u> (Max-17)	
Bromochloromethane	74-97-5	MS	23.2	0	20	116	73 - 117		
Bromochloromethane	74-97-5	MSD	22.6	0	20	113	73 - 117	RPD <u>2.66</u> (Max-19)	
Bromodichloromethane	75-27-4	MS	22.9	0	20	114	79 - 126		
Bromodichloromethane	75-27-4	MSD	22.6	0	20	113	79 - 126	RPD <u>1.22</u> (Max-16)	



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Bromoform	75-25-2	MS	17.9	0	20	89.5	70 - 123		
Bromoform	75-25-2	MSD	18	0	20	89.9	70 - 123	RPD	0.44 (Max-16)
Bromomethane	74-83-9	MS	15.4	0	20	77.1	45 - 148		
Bromomethane	74-83-9	MSD	15.4	0	20	76.9	45 - 148	RPD	0.30 (Max-26)
Carbon Tetrachloride	56-23-5	MS	20.1	0	20	101	62 - 132		
Carbon Tetrachloride	56-23-5	MSD	20.2	0	20	101	62 - 132	RPD	0.19 (Max-17)
Chlorobenzene	108-90-7	MS	22.5	0	20	112	85 - 117		
Chlorobenzene	108-90-7	MSD	22.2	0	20	111	85 - 117	RPD	1.14 (Max-15)
Chlorodibromomethane	124-48-1	MS	19.1	0	20	95.3	77 - 122		
Chlorodibromomethane	124-48-1	MSD	19	0	20	95.1	77 - 122	RPD	0.20 (Max-15)
Chloroethane	75-00-3	MS	21.8	0	20	109	51 - 142		
Chloroethane	75-00-3	MSD	20.2	0	20	101	51 - 142	RPD	7.66 (Max-24)
Chloroform	67-66-3	MS	21.9	0.50	20	107	78 - 122		
Chloroform	67-66-3	MSD	21.4	0.50	20	104	78 - 122	RPD	2.66 (Max-16)
Chloromethane	74-87-3	MS	21.5	0	20	107	38 - 156		
Chloromethane	74-87-3	MSD	20.2	0	20	101	38 - 156	RPD	5.95 (Max-27)
cis-1,2-Dichloroethene	156-59-2	MS	22	0	20	110	78 - 125		
cis-1,2-Dichloroethene	156-59-2	MSD	21.9	0	20	109	78 - 125	RPD	0.65 (Max-21)
cis-1,3-Dichloropropene	10061-01-5	MS	22.6	0	20	113	81 - 121		
cis-1,3-Dichloropropene	10061-01-5	MSD	22.6	0	20	113	81 - 121	RPD	0.04 (Max-16)
Dibromomethane	74-95-3	MS	21.8	0	20	109	81 - 125		
Dibromomethane	74-95-3	MSD	21.8	0	20	109	81 - 125	RPD	0.01 (Max-16)
Dichlorodifluoromethane	75-71-8	MS	19.4	0	20	97.1	17 - 166		
Dichlorodifluoromethane	75-71-8	MSD	17.7	0	20	88.6	17 - 166	RPD	9.21 (Max-24)
Diisopropyl ether	108-20-3	MS	21.5	0	20	108	74 - 131		
Diisopropyl ether	108-20-3	MSD	21.4	0	20	107	74 - 131	RPD	0.67 (Max-15)
Ethylbenzene	100-41-4	MS	22.7	0	20	114	80 - 124		
Ethylbenzene	100-41-4	MSD	22.9	0	20	114	80 - 124	RPD	0.76 (Max-19)
Hexachlorobutadiene	87-68-3	MS	20.6	0	20	103	55 - 128		
Hexachlorobutadiene	87-68-3	MSD	22.2	0	20	111	55 - 128	RPD	7.61 (Max-35)
Methyl t-Butyl Ether	1634-04-4	MS	21.9	0	20	110	69 - 115		
Methyl t-Butyl Ether	1634-04-4	MSD	21.7	0	20	109	69 - 115	RPD	1.07 (Max-20)
Methylene Chloride	75-09-2	MS	21.8	0	20	109	76 - 121		
Methylene Chloride	75-09-2	MSD	21.4	0	20	107	76 - 121	RPD	1.99 (Max-17)
mp-Xylene	108383/106423	MS	45.4	0	40	114	79 - 125		
mp-Xylene	108383/106423	MSD	45.3	0	40	113	79 - 125	RPD	0.28 (Max-21)
Naphthalene	91-20-3	MS	18.3	0	20	91.7	56 - 134		
Naphthalene	91-20-3	MSD	18.8	0	20	93.9	56 - 134	RPD	2.39 (Max-40)
o-Chlorotoluene	95-49-8	MS	21.8	0	20	109	78 - 126		
o-Chlorotoluene	95-49-8	MSD	21.9	0	20	109	78 - 126	RPD	0.04 (Max-17)
o-Xylene	95-47-6	MS	22.4	0	20	112	79 - 124		
o-Xylene	95-47-6	MSD	22.1	0	20	111	79 - 124	RPD	1.17 (Max-19)
p-Chlorotoluene	106-43-4	MS	21.6	0	20	108	78 - 125		
p-Chlorotoluene	106-43-4	MSD	21.8	0	20	109	78 - 125	RPD	1.07 (Max-16)
p-Isopropyltoluene	99-87-6	MS	21.6	0	20	108	72 - 123		
p-Isopropyltoluene	99-87-6	MSD	22.1	0	20	111	72 - 123	RPD	2.65 (Max-17)
Styrene	100-42-5	MS	23.3	0	20	117	79 - 123		
Styrene	100-42-5	MSD	23.4	0	20	117	79 - 123	RPD	0.34 (Max-16)



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Tetrachloroethene	127-18-4	MS	19.2	0	20	95.8	72 - 124		
Tetrachloroethene	127-18-4	MSD	19.6	0	20	97.9	72 - 124	RPD <u>2.20</u> (Max-38)	
Toluene	108-88-3	MS	22.2	0	20	111	80 - 125		
Toluene	108-88-3	MSD	22.2	0	20	111	80 - 125	RPD <u>0.32</u> (Max-20)	
Total Xylenes	1330-20-7	MS	67.8	0	60	113	79 - 125		
Total Xylenes	1330-20-7	MSD	67.5	0	60	112	79 - 125	RPD <u>0.57</u> (Max-35)	
trans-1,2-Dichloroethene	156-60-5	MS	21.9	0	20	110	71 - 122		
trans-1,2-Dichloroethene	156-60-5	MSD	21.6	0	20	108	71 - 122	RPD <u>1.31</u> (Max-22)	
trans-1,3-Dichloropropene	10061-02-6	MS	20.6	0	20	103	78 - 126		
trans-1,3-Dichloropropene	10061-02-6	MSD	20.5	0	20	103	78 - 126	RPD <u>0.32</u> (Max-18)	
Trichloroethene	79-01-6	MS	21.5	0	20	108	77 - 124		
Trichloroethene	79-01-6	MSD	21.2	0	20	106	77 - 124	RPD <u>1.37</u> (Max-18)	
Trichlorofluoromethane	75-69-4	MS	22	0	20	110	38 - 123		
Trichlorofluoromethane	75-69-4	MSD	19.9	0	20	99.4	38 - 123	RPD <u>10.30</u> (Max-23)	
Vinyl Acetate	108-05-4	MS	19.3	0	20	96.5	58 - 136		
Vinyl Acetate	108-05-4	MSD	18.7	0	20	93.5	58 - 136	RPD <u>3.16</u> (Max-17)	
Vinyl Chloride	75-01-4	MS	22.3	0	20	111	27 - 138		
Vinyl Chloride	75-01-4	MSD	20.6	0	20	103	27 - 138	RPD <u>7.63</u> (Max-40)	

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	MS	31.7	30	106	62 - 133	
1,2-Dichloroethane-d4	17060-07-0	MSD	30.8	30	103	62 - 133	
4-Bromofluorobenzene	460-00-4	MS	30.3	30	101	79 - 114	
4-Bromofluorobenzene	460-00-4	MSD	29.7	30	98.9	79 - 114	
Dibromofluoromethane	1868-53-7	MS	30.4	30	101	78 - 116	
Dibromofluoromethane	1868-53-7	MSD	29.9	30	99.7	78 - 116	
Toluene-d8	2037-26-5	MS	30.2	30	101	76 - 127	
Toluene-d8	2037-26-5	MSD	30	30	99.9	76 - 127	

Method Blank 3909072 (MB) Created on 11/22/2024 10:43 For QC Batch 1337882

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6		BLK	1.0 U ug/L	1.0	U
1,1,1-Trichloroethane	71-55-6		BLK	1.0 U ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5		BLK	1.0 U ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5		BLK	1.0 U ug/L	1.0	U
1,1-Dichloroethane	75-34-3		BLK	1.0 U ug/L	1.0	U
1,1-Dichloroethene	75-35-4		BLK	1.0 U ug/L	1.0	U
1,1-Dichloropropene	563-58-6		BLK	1.0 U ug/L	1.0	U
1,2,3-Trichlorobenzene	87-61-6		BLK	2.0 U ug/L	2.0	U
1,2,3-Trichloropropane	96-18-4		BLK	2.0 U ug/L	2.0	U
1,2,4-Trichlorobenzene	120-82-1		BLK	2.0 U ug/L	2.0	U
1,2-Dibromo-3-chloropropane	96-12-8		BLK	7.0 U ug/L	7.0	U



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
1,2-Dibromoethane	106-93-4	BLK	1.0 U	ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	1.0 U	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	1.0 U	ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	1.0 U	ug/L	1.0	U
1,3-Dichlorobenzene	541-73-1	BLK	1.0 U	ug/L	1.0	U
1,3-Dichloropropane	142-28-9	BLK	1.0 U	ug/L	1.0	U
1,4-Dichlorobenzene	106-46-7	BLK	1.0 U	ug/L	1.0	U
2,2-Dichloropropane	594-20-7	BLK	1.0 U	ug/L	1.0	U
2-Butanone	78-93-3	BLK	10.0 U	ug/L	10.0	U
2-Hexanone	591-78-6	BLK	5.0 U	ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	5.0 U	ug/L	5.0	U
Acetone	67-64-1	BLK	10.0 U	ug/L	10.0	U
Benzene	71-43-2	BLK	1.0 U	ug/L	1.0	U
Bromobenzene	108-86-1	BLK	1.0 U	ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	1.0 U	ug/L	1.0	U
Bromodichloromethane	75-27-4	BLK	1.0 U	ug/L	1.0	U
Bromoform	75-25-2	BLK	1.0 U	ug/L	1.0	U
Bromomethane	74-83-9	BLK	1.0 U	ug/L	1.0	U
Carbon Tetrachloride	56-23-5	BLK	1.0 U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	1.0 U	ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	1.0 U	ug/L	1.0	U
Chloroethane	75-00-3	BLK	1.0 U	ug/L	1.0	U
Chloroform	67-66-3	BLK	1.0 U	ug/L	1.0	U
Chloromethane	74-87-3	BLK	1.0 U	ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	1.0 U	ug/L	1.0	U
cis-1,3-Dichloropropene	10061-01-5	BLK	1.0 U	ug/L	1.0	U
Dibromomethane	74-95-3	BLK	1.0 U	ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	1.0 U	ug/L	1.0	U
Diisopropyl ether	108-20-3	BLK	1.0 U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	1.0 U	ug/L	1.0	U
Hexachlorobutadiene	87-68-3	BLK	5.0 U	ug/L	5.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	1.0 U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	1.0 U	ug/L	1.0	U
mp-Xylene	108383/106423	BLK	2.0 U	ug/L	2.0	U
Naphthalene	91-20-3	BLK	2.0 U	ug/L	2.0	U
o-Chlorotoluene	95-49-8	BLK	1.0 U	ug/L	1.0	U
o-Xylene	95-47-6	BLK	1.0 U	ug/L	1.0	U
p-Chlorotoluene	106-43-4	BLK	1.0 U	ug/L	1.0	U
p-Isopropyltoluene	99-87-6	BLK	1.0 U	ug/L	1.0	U
Styrene	100-42-5	BLK	1.0 U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	1.0 U	ug/L	1.0	U
Toluene	108-88-3	BLK	1.0 U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	3.0 U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	1.0 U	ug/L	1.0	U
trans-1,3-Dichloropropene	10061-02-6	BLK	1.0 U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	1.0 U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	1.0 U	ug/L	1.0	U
Vinyl Acetate	108-05-4	BLK	5.0 U	ug/L	5.0	U



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No	Result	Units	RDL	Qualifiers
Vinyl Chloride	75-01-4	BLK	1.0 U ug/L	1.0	U

SURROGATES

Compound	CAS No	Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	30.9	30	103	62 - 133
4-Bromofluorobenzene	460-00-4	BLK	29.7	30	99.1	79 - 114
Dibromofluoromethane	1868-53-7	BLK	29	30	96.6	78 - 116
Toluene-d8	2037-26-5	BLK	30	30	99.9	76 - 127

Lab Control Standard 3909073 (LCS) Created on 11/22/2024 10:43 For QC Batch 1337882

RESULTS

Compound	CAS No	Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1,2-Tetrachloroethane	630-20-6	LCS	22.5	20	112	78 - 121		
1,1,1-Trichloroethane	71-55-6	LCS	21.6	20	108	66 - 130		
1,1,2,2-Tetrachloroethane	79-34-5	LCS	21.4	20	107	74 - 135		
1,1,2-Trichloroethane	79-00-5	LCS	21.7	20	109	82 - 126		
1,1-Dichloroethane	75-34-3	LCS	20.8	20	104	78 - 124		
1,1-Dichloroethene	75-35-4	LCS	20.2	20	101	63 - 128		
1,1-Dichloropropene	563-58-6	LCS	21	20	105	76 - 126		
1,2,3-Trichlorobenzene	87-61-6	LCS	20.3	20	102	61 - 126		
1,2,3-Trichloropropane	96-18-4	LCS	20.7	20	104	75 - 132		
1,2,4-Trichlorobenzene	120-82-1	LCS	23.8	20	119	67 - 123		
1,2-Dibromo-3-chloropropane	96-12-8	LCS	19	20	95.1	59 - 133		
1,2-Dibromoethane	106-93-4	LCS	21.9	20	109	80 - 124		
1,2-Dichlorobenzene	95-50-1	LCS	21.8	20	109	82 - 118		
1,2-Dichloroethane	107-06-2	LCS	20.3	20	102	70 - 133		
1,2-Dichloropropane	78-87-5	LCS	20.5	20	103	81 - 127		
1,3-Dichlorobenzene	541-73-1	LCS	21.2	20	106	81 - 118		
1,3-Dichloropropane	142-28-9	LCS	21.4	20	107	82 - 126		
1,4-Dichlorobenzene	106-46-7	LCS	21.1	20	106	81 - 116		
2,2-Dichloropropane	594-20-7	LCS	23.3	20	116	64 - 129		
2-Butanone	78-93-3	LCS	107	100	107	50 - 152		
2-Hexanone	591-78-6	LCS	97.5	100	97.5	65 - 154		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	91.7	100	91.7	71 - 146		
Acetone	67-64-1	LCS	115	100	115	40 - 151		
Benzene	71-43-2	LCS	20.9	20	105	80 - 124		
Bromobenzene	108-86-1	LCS	21.9	20	110	81 - 119		
Bromochloromethane	74-97-5	LCS	22.7	20	113	73 - 117		
Bromodichloromethane	75-27-4	LCS	22.2	20	111	79 - 126		
Bromoform	75-25-2	LCS	17.8	20	89	70 - 123		
Bromomethane	74-83-9	LCS	16.9	20	84.4	45 - 148		
Carbon Tetrachloride	56-23-5	LCS	19.7	20	98.6	62 - 132		
Chlorobenzene	108-90-7	LCS	21.6	20	108	85 - 117		



QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Chlorodibromomethane	124-48-1	LCS	19		20	95	77 - 122		
Chloroethane	75-00-3	LCS	20.8		20	104	51 - 142		
Chloroform	67-66-3	LCS	20.6		20	103	78 - 122		
Chloromethane	74-87-3	LCS	20.2		20	101	38 - 156		
cis-1,2-Dichloroethene	156-59-2	LCS	21.1		20	106	78 - 125		
cis-1,3-Dichloropropene	10061-01-5	LCS	22.1		20	111	81 - 121		
Dibromomethane	74-95-3	LCS	20.8		20	104	81 - 125		
Dichlorodifluoromethane	75-71-8	LCS	19.6		20	97.9	17 - 166		
Diisopropyl ether	108-20-3	LCS	20.8		20	104	74 - 131		
Ethylbenzene	100-41-4	LCS	21.8		20	109	80 - 124		
Hexachlorobutadiene	87-68-3	LCS	22.6		20	113	55 - 128		
Methyl t-Butyl Ether	1634-04-4	LCS	21.1		20	105	69 - 115		
Methylene Chloride	75-09-2	LCS	20.9		20	105	76 - 121		
mp-Xylene	108383/106423	LCS	44.3		40	111	79 - 125		
Naphthalene	91-20-3	LCS	18.1		20	90.5	56 - 134		
o-Chlorotoluene	95-49-8	LCS	21.9		20	109	78 - 126		
o-Xylene	95-47-6	LCS	22		20	110	79 - 124		
p-Chlorotoluene	106-43-4	LCS	21.6		20	108	78 - 125		
p-Isopropyltoluene	99-87-6	LCS	22		20	110	72 - 123		
Styrene	100-42-5	LCS	23.3		20	117	79 - 123		
Tetrachloroethene	127-18-4	LCS	20.2		20	101	72 - 124		
Toluene	108-88-3	LCS	21.2		20	106	80 - 125		
Total Xylenes	1330-20-7	LCS	66.3		60	111	79 - 125		
trans-1,2-Dichloroethene	156-60-5	LCS	20.8		20	104	71 - 122		
trans-1,3-Dichloropropene	10061-02-6	LCS	20.1		20	101	78 - 126		
Trichloroethene	79-01-6	LCS	20.6		20	103	77 - 124		
Trichlorofluoromethane	75-69-4	LCS	21.8		20	109	38 - 123		
Vinyl Acetate	108-05-4	LCS	18.2		20	91.1	58 - 136		
Vinyl Chloride	75-01-4	LCS	21.6		20	108	27 - 138		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	29.1	30	97.1	62 - 133	
4-Bromofluorobenzene	460-00-4	LCS	30.1	30	100	79 - 114	
Dibromofluoromethane	1868-53-7	LCS	29.8	30	99.5	78 - 116	
Toluene-d8	2037-26-5	LCS	29.6	30	98.7	76 - 127	



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3387069001	MW-03	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		N/A	N/A	N/A		SW846 8260D	1332651
3387069002	MW-27 D	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		N/A	N/A	N/A		SW846 8260D	1332651
3387069003	MW-43	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		N/A	N/A	N/A		SW846 8260D	1332651
3387069004	MW-39	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		N/A	N/A	N/A		SW846 8260D	1332651
3387069005	MW-42	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		N/A	N/A	N/A		SW846 8260D	1332651
3387069006	MW-18	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		N/A	N/A	N/A		SW846 8260D	1332651
3387069007	MW-38R	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1335342
		N/A	N/A	N/A	SW846 8260D	1332651	
3387069008	RW-1S	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1335342
		N/A	N/A	N/A	SW846 8260D	1332651	
3387069009	RW-2S	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1335342
		N/A	N/A	N/A	SW846 8260D	1332651	
3387069010	Trip Blank A	N/A	N/A	N/A		SW846 8260D	1332651
3387069011	MW-5R	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		N/A	N/A	N/A		SW846 8260D	1337882
3387069012	MW-40 D	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		N/A	N/A	N/A		SW846 8260D	1337882
3387069013	MW-100	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1335342
		N/A	N/A	N/A	SW846 8260D	1337882	
3387069014	MW-44	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		N/A	N/A	N/A		SW846 8260D	1337882
3387069015	MW-21D	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		N/A	N/A	N/A		SW846 8260D	1337882
3387069016	RW-1D	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1335342
		N/A	N/A	N/A	SW846 8260D	1337882	
3387069017	MW-41D	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		N/A	N/A	N/A		SW846 8260D	1337882
3387069018	Trip Blank B	N/A	N/A	N/A		SW846 8260D	1337882
3387069019	MW-01D	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		N/A	N/A	N/A		SW846 8260D	1337882
3387069020	MW-01	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		N/A	N/A	N/A		SW846 8260D	1337882
3387069021	MW-22D	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		N/A	N/A	N/A		SW846 8260D	1337882
3387069022	MW-20	SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1333241
		SW846 3510C	1332155	11/14/2024 09:10	DEC	SW846 8270E SIM	1335342
		N/A	N/A	N/A	SW846 8260D	1337882	
3387069023	MW-4R	SW846 3510C	1332545	11/15/2024 08:20	DEC	SW846 8270E SIM	1335342
		N/A	N/A	N/A		SW846 8260D	1337882
3387069024	MW-09	SW846 3510C	1332545	11/15/2024 08:20	DEC	SW846 8270E SIM	1334510
		N/A	N/A	N/A		SW846 8260D	1337882
3387069025	MW-23D	SW846 3510C	1332545	11/15/2024 08:20	DEC	SW846 8270E SIM	1334510
		SW846 3510C	1332545	11/15/2024 08:20	DEC	SW846 8270E SIM	1335342
		N/A	N/A	N/A	SW846 8260D	1337882	



Project **Kop Flex On Site**
Workorder **3387069**

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3387069026	MW-16	SW846 3510C	1332545	11/15/2024 08:20	DEC	SW846 8270E SIM	1334510
		SW846 3510C	1332545	11/15/2024 08:20	DEC	SW846 8270E SIM	1335342
		N/A	N/A	N/A		SW846 8260D	1337882
3387069027	MW-16D	SW846 3510C	1332545	11/15/2024 08:20	DEC	SW846 8270E SIM	1334510
		SW846 3510C	1332545	11/15/2024 08:20	DEC	SW846 8270E SIM	1335342
		N/A	N/A	N/A		SW846 8260D	1337882
3387069028	Trip Blank C	N/A	N/A	N/A		SW846 8260D	1337882



301 Fulling Mill Rd, Suite A
Middletown, PA 17057
P. 717-944-5541

**CHAIN OF CUSTODY/
REQUEST FOR ANALYSIS**
ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /
SAMPLER. INSTRUCTIONS ON THE BACK.

Client Name: WSP USA		Container Type: 6 A G		Temp Taken By: 569		Therm ID: 569		WO Temp (°C): 2	
Address: 13530 Dulles Technology Dr. Suite 300 Herndon, VA		Container Size: 400ml 150ml 100ml		Receipt Info Completed by: [Signature]		WV Containers 0-6°C: Y N NA		Deviations? NO YES If YES, list below	
Contact: Eric Johnson		Preservative: H2O		Cooler Custody Seal Intact: Y N NA		Y N NA		Y N NA	
Phone#: (703) 709-5000		Orthophosphate Filtered? Yes No		Sample Custody Seal Intact: Y N NA		Y N NA		Y N NA	
Project Name#: KOP FLEX ON SITE		Hexavalent Chromium Filtered? Yes No		Received on Ice: Y N NA		Y N NA		Y N NA	
Bill To: [Signature]		ANALYSIS / METHOD REQUESTED		Coolers & Samples Intact: Y N NA		Y N NA		Y N NA	
Purchase Order #: P 102389 US001		VOCs R260		Correct Containers Provided: Y N NA		Y N NA		Y N NA	
TAT: [] Normal-Standard TAT is 10-12 business days. [] Rush-Subject to ALS approval and surcharges.		VOCs TRIP BLANK		Sample Label/COC Agree: Y N NA		Y N NA		Y N NA	
Date Required: []		Hydrazine 8270		Adequate Sample Volumes: Y N NA		Y N NA		Y N NA	
Email: [] eric.johnson@wsp.com		SDWA Sample Type (see key)		VOA only: Trip Blank: Y N		Y N NA		Y N NA	
Sample Description/Location		Enter Number of Co		NJ ≤ 4 days? Y N		Y N NA		Y N NA	
1	MW-03	2	2	Courier/Tracking #		Sample(s) for Radiation testing? Y N		Rad Screen (uCi)	
2	MW-27 D	2	2	SDWA State of Origin?		Reportable SDWA Sample(s)? Y N		New Source? Y N	
3	MW-43	3	2	PWSID #		SDWA State of Origin?		New Source Contact	
4	MW-39	3	2	PWS Contact		PWSID #		PWS Phone #	
5	MW-42	3	2	SDWA Sample Type Key: D=Distribution E=Entry Point		SDWA State of Origin?		New Source Contact	
6	MW-18	3	2	R=Raw P=Plant C=Check S=Special A=Annual Startup		SDWA State of Origin?		New Source Contact	
7	MW-38R	3	2	Sample/COC Remarks		SDWA State of Origin?		New Source Contact	
8	RW-1S	3	2	No Sample DB 11/11/24		SDWA State of Origin?		New Source Contact	
9	RW-2S	3	2	Contains Short Hold Testing YES (NO)		SDWA State of Origin?		New Source Contact	
10	TRIP BLANK A	3	2	Internal Use: if less than 48 hours - notify lab upon receipt		SDWA State of Origin?		New Source Contact	



301 Fulling Mill Rd, Suite A
Middletown, PA 17057
P. 717-944-5541

**CHAIN OF CUSTODY/
REQUEST FOR ANALYSIS**
ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /
SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: **2** **3387009** of
ALS Quote #:

Client Name: **WSP USA**
Address: **13530 Dulles Technology Dr.
Suite 300
Herndon, VA**
Contact: **Eric Johnson**
Phone#: **(703) 709-5000**
Project Name#: **KQFLIX - DV SITE**
Bill To:
Purchase Order #: **P102389US001**
TAT: Normal-Standard TAT is 10-12 business days.
 Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? **eric.johnson@wsp.com**

Container Type	Container Size	Preservative	Orthophosphate Filtered?	Yes	No	Hexavalent Chromium Filtered?	Yes	No
6A	6A	None						
WSP 2500P	WSP 2500P	None						
WSP	WSP	None						

SDWA Sample Type (see key)		SDWA Matrix (See bottom of COC)		Enter Number of Containers Per Sample or Field Results Below.	
GHW	3	GHW	3	2	
GHW	3	GHW	3	2	
GHW	3	GHW	3	1	
GHW	3	GHW	3	2	
GHW	3	GHW	3	1	
GHW	3	GHW	3	2	
GHW	3	GHW	3	2	
GHW	3	GHW	3	2	
GHW	3	GHW	3	2	
GHW	3	GHW	3	2	
GHW	3	GHW	3	2	

Sample Description/Location (as it will appear on the lab report)	Date Collected m/m/dd/yyyy	Time hh:mm
1 MW-5R	11/10	1245
2 MW-40 D	11/10	1255
3 MW-100	11/10	1300
4 MW-44	11/10	1400
5 MW-44MS	11/10	1400
6 MW-44MSD	11/10	1400
7 MW-21 D	11/10	1420
8 RW-1D	11/10	1430
9 MW-41 D	11/10	1440
10 TRIP BLANK B		

Receipt Information (completed by Receiving Lab)
Temp Taken By: Therm ID: WO Temp (°C):
Receipt Info completed by: WV Containers 0-6°C: Y N NA
Cooler Custody Seals Intact: Y N NA Deviations? NO YES
Sample Custody Seal Intact: Y N NA If YES, list below
Received on Ice: Y N NA
Coolers & Samples Intact: Y N NA
Correct Containers Provided: Y N NA
Sample Label/COC Agree: Y N NA
Adequate Sample Volumes: Y N NA
VOA only: Trip Blank: Y N NA
NJ ≤ 4 days? Y N
Client contact: Courier/Tracking # Date/Fac#

Temp Taken By: Therm ID: WO Temp (°C):
Receipt Info completed by: WV Containers 0-6°C: Y N NA
Cooler Custody Seals Intact: Y N NA Deviations? NO YES
Sample Custody Seal Intact: Y N NA If YES, list below
Received on Ice: Y N NA
Coolers & Samples Intact: Y N NA
Correct Containers Provided: Y N NA
Sample Label/COC Agree: Y N NA
Adequate Sample Volumes: Y N NA
VOA only: Trip Blank: Y N NA
NJ ≤ 4 days? Y N
Client contact: Courier/Tracking # Date/Fac#

Temp Taken By: Therm ID: WO Temp (°C):
Receipt Info completed by: WV Containers 0-6°C: Y N NA
Cooler Custody Seals Intact: Y N NA Deviations? NO YES
Sample Custody Seal Intact: Y N NA If YES, list below
Received on Ice: Y N NA
Coolers & Samples Intact: Y N NA
Correct Containers Provided: Y N NA
Sample Label/COC Agree: Y N NA
Adequate Sample Volumes: Y N NA
VOA only: Trip Blank: Y N NA
NJ ≤ 4 days? Y N
Client contact: Courier/Tracking # Date/Fac#

Temp Taken By: Therm ID: WO Temp (°C):
Receipt Info completed by: WV Containers 0-6°C: Y N NA
Cooler Custody Seals Intact: Y N NA Deviations? NO YES
Sample Custody Seal Intact: Y N NA If YES, list below
Received on Ice: Y N NA
Coolers & Samples Intact: Y N NA
Correct Containers Provided: Y N NA
Sample Label/COC Agree: Y N NA
Adequate Sample Volumes: Y N NA
VOA only: Trip Blank: Y N NA
NJ ≤ 4 days? Y N
Client contact: Courier/Tracking # Date/Fac#

Temp Taken By: Therm ID: WO Temp (°C):
Receipt Info completed by: WV Containers 0-6°C: Y N NA
Cooler Custody Seals Intact: Y N NA Deviations? NO YES
Sample Custody Seal Intact: Y N NA If YES, list below
Received on Ice: Y N NA
Coolers & Samples Intact: Y N NA
Correct Containers Provided: Y N NA
Sample Label/COC Agree: Y N NA
Adequate Sample Volumes: Y N NA
VOA only: Trip Blank: Y N NA
NJ ≤ 4 days? Y N
Client contact: Courier/Tracking # Date/Fac#

Temp Taken By: Therm ID: WO Temp (°C):
Receipt Info completed by: WV Containers 0-6°C: Y N NA
Cooler Custody Seals Intact: Y N NA Deviations? NO YES
Sample Custody Seal Intact: Y N NA If YES, list below
Received on Ice: Y N NA
Coolers & Samples Intact: Y N NA
Correct Containers Provided: Y N NA
Sample Label/COC Agree: Y N NA
Adequate Sample Volumes: Y N NA
VOA only: Trip Blank: Y N NA
NJ ≤ 4 days? Y N
Client contact: Courier/Tracking # Date/Fac#



301 Fulfilling Mill Rd, Suite A
 Middletown, PA 17057
 P. 717-944-5541

**CHAIN OF CUSTODY/
 REQUEST FOR ANALYSIS**
 ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT/
 SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: **3** **3367069** of
 ALS Quote #:

Client Name: WSP USA		Temp Taken By:		Receipt Information (completed by Receiving Lab)	
Address: 13530 Dulles Technology Dr. Suite 300 Herndon, VA		Therm ID:		WO Temp (°C)	
Contact: Eric Johnson		Receipt info completed by:		WV Containers 0-6°C Y N NA	
Phone#: (703) 709-5600		Cooler Custody Seals Intact		Deviations? NO YES	
Project Name#: KOP FRY - ON SITE		Sample Custody Seal Intact		If YES, list below	
Bill To:		Received on Ice		Y N NA	
Purchase Order #: P107389 US 001		Coolers & Samples Intact		Y N NA	
TAT <input checked="" type="checkbox"/> Normal-Standard TAT is 10-12 business days.		Correct Containers Provided		Y N NA	
Rush-Subject to ALS approval and surcharges.		Sample Label/COC Agree		Y N NA	
Date Required: Approved?		Adequate Sample Volumes		Y N NA	
Email? <input checked="" type="checkbox"/> eric.johnson@wsp.com		VOA only: Trip Blank		Y N NA	
		NJ ≤ 4 days? Y N		Client contact:	
		Courier/Tracking #		Date/Tech	
Sample Description/Location		Sample(s) for Radiation testing?		Rad Screen (uCi)	
Date Collected		Reportable SDWA Sample(s)?		New Source? Y N	
Time		SDWA State of Origin?		New Source Contact	
1 MW-01D 11/11/24 1450		PWSID #		PWS Contact:	
2 MW-01 11/11/24 1500		PWS Phone #:		SDWA Sample Type Key: D=Distribution E=Entry Point	
3 MW-22D 11/11/24 1510		Enter Number of Containers Per Sample or Field Results Below.		R=Raw P=Plant C=Check S=Special A=Annual Startup	
4 MW-20 11/11/24 1540		VOCs 8260		Sample/COC Remarks	
5 MW-4R 11/11/24 1550		VOCs TRIP BLANK			
6 MW-09 11/11/24 1600		1/4 dioxane 8270			
7 MW-23D 11/11/24 1615		ANALYSIS / METHOD REQUESTED			
8 MW-16 11/11/24 1630		Orthophosphate Filtered? Yes No Hexavalent Chromium Filtered? Yes No			
9 MW-16D 11/11/24 1640		SDWA Sample Type (see key)			
10 TRIP BLANK		* G or C			
Circle Sample Collector: ALS Tech / Client		**Matrix (See bottom of COC)			
Name: ID:		Data Deliverables		State Samples Collected In	
Date: Time		EDDS		NY NJ PA WV FL other	
11/11/24 3:25		Received By / Company Name		Standard Lvl 1 <input type="checkbox"/> CLP-like <input type="checkbox"/> HSCA	
11-11-24 17:23		Eric Johnson ALS		Standard Lvl 2 <input type="checkbox"/> DOD <input type="checkbox"/> Landfill	
		2		Standard Lvl 3 <input type="checkbox"/> NJ RED <input type="checkbox"/> NJ GW	
		4		Standard Lvl 4 <input type="checkbox"/> NJ Full <input type="checkbox"/>	
		6		Excel Summary	
		8		Equis Lab <input type="checkbox"/>	
		10		Custom Special <input type="checkbox"/>	
		Comments:		Internal Use: If less than 48 hours - notify lab upon receipt	
		Relinquished By / Company Name		Contains Short Hold Testing YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
		Eric Johnson ALS			
		3			
		5			
		7			
		9			

APPENDIX

D HISTORICAL GROUNDWATER SAMPLING RESULTS

Appendix D - Table D-1

Historical Monitoring Well Sampling Results
Former Kop-Flex Facility Site
Hanover, Maryland
(December 2016 - November 2024) (a)

Well ID	Sample Date	Chloroethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	Tetrachloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl chloride
Groundwater Cleanup Standards (b)		2,100	2.8	5	7	70	15 (c)	5	5	200	5	5	2
MW-01	5/14/2020	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/9/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/14/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.23	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/20/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/2023	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/11/2024	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-03	12/8/2016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	4.6	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/1/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/30/2018	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2019	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/12/2020	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/9/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/14/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/20/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/2023	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/10/2024	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-04	12/7/2016	10.0 U	259	10.0 U	1,020	10.0 U	576	20.0 U	4.0 U	31.7	10.0 U	10.0 U	10.0 U
	5/2/2017	4.0 U	103	4.0 U	459	4.0 U	252	8.0 U	4.0 U	13.0	4.0 U	4.0 U	4.0 U
	11/15/2017	5.0 U	29.2	1.0 J	151	1.0 U	121	10.5	0.687 J	4.3	1.0 U	1.4	1.0 U
	5/30/2018	1.0 U	33.3	1.0 U	153	1.0 U	92.7	2.0 U	1.0 U	4.0	1.0 U	1.0 U	1.0 U
	11/7/2018	1.0 U	23.3	1.0 U	89.9	1.0 U	1.0 U	2.0 U	1.0 U	1.6	1.0 U	1.0 U	1.0 U
	5/21/2019	1.0 U	57.7	1.1	142	1.0 U	111	5.0 U	1.0 U	1.7	1.0 U	1.1	1.0 U
	11/19/2019	1.0 U	45.1	1.1	126	1.0 U	94.2	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/13/2020	1.0 U	58.6	1.3	149	1.0 U	84.6	5.0 U	1.0 U	1.4	1.2	1.2	1.0 U
	11/22/2020	1.0 U	62.0	1.6	141	1.0 U	151	5.0 U	1.0 U	1.0 U	1.0 U	1.2	1.0 U
	5/9/2021	2.5 U	130	2.9	361	2.5 U	303	12.5 U	2.5 U	3.4	2.5 U	2.5 U	2.5 U
	11/14/2021	1.0 U	82.7	1.2	175	1.0 U	134	5.0 U	1.0 U	1.0 U	1.0 U	1.5	1.0 U
6/26/2022	1.0 U	173	3.1	339	1.0 U	86.8	5.0 U	1.0 U	1.8	1.0 U	3.0	1.0 U	

Appendix D - Table D-1

Historical Monitoring Well Sampling Results
Former Kop-Flex Facility Site
Hanover, Maryland
(December 2016 - November 2024) (a)

Well ID	Sample Date	Chloroethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	Tetrachloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl chloride
Groundwater Cleanup Standards (b)		2,100	2.8	5	7	70	15 (c)	5	5	200	5	5	2
MW-04R	11/20/2022	1.0 U	37.4	1.1	76.0	1.0 U	57.3	1.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U
	5/21/2023	1.0 U	33.2	1.0 U	65.5	1.0 U	30.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/2023	5.0 U	31.3	5.0 U	65.8	5.0 U	35.9	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	5/19/2024	1.0 U	36.0	1.1	76.0	1.0 U	26.7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/11/2024	1.0 U	32.6	1.0 U	61.6	1.0 U	36.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-5R	12/7/2016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	16.5	2.0 U	1.0 U	1.4	1.0 U	1.0 U	1.0 U
	5/1/2017	1.0 U	1.4	1.0 U	1.4	1.0 U	16.5	2.0 U	1.0 U	2.7	1.0 U	1.0 U	1.0 U
	11/15/2017	5.0 U	1.6	1.0 U	2.5	1.0 U	11.0	10.2	1.0 U	1.7	1.0 U	1.0 U	1.0 U
	5/30/2018	1.0 U	1.8	1.0 U	2.7	1.0 U	11.5	2.0 U	1.0 U	1.4	1.0 U	1.0 U	1.0 U
	11/7/2018	1.0 U	1.0 U	1.0 U	1.3	1.0 U	2.0 U	2.0 U	1.0 U	1.5	1.0 U	1.0 U	1.0 U
	5/21/2019	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	7.6	5.0 U	1.0 U	1.9	1.0 U	1.0 U	1.0 U
	11/19/2019	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	6.8	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/12/2020	1.0 U	1.8	1.0 U	1.7	1.0 U	13.4	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/22/2020	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.2	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/14/2021	1.0 U	1.6	1.0 U	1.4	1.0 U	12.0	5.0 U	1.0 U	2.4	1.0 U	1.0 U	1.0 U
	6/26/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0	5.0 U	1.0 U	1.2	1.0 U	1.0 U	1.0 U
	11/20/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2023	1.0 U	1.2	1.0 U	1.0 U	1.0 U	3.3	1.0 U	1.0 U	1.6	1.0 U	1.0 U	1.0 U
	12/3/2023	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.5	1.0 U	1.0 U	1.5	1.0 U	1.0 U	1.0 U
	11/10/2024	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.9	1.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U

Appendix D - Table D-1

Historical Monitoring Well Sampling Results
Former Kop-Flex Facility Site
Hanover, Maryland
(December 2016 - November 2024) (a)

Well ID	Sample Date	Chloroethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	Tetrachloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl chloride
Groundwater Cleanup Standards (b)		2,100	2.8	5	7	70	15 (c)	5	5	200	5	5	2
MW-09	12/8/2016	1.0 U	4.5	1.0 U	104	1.0 U	95.5	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/2/2017	1.0 U	2.9	1.0 U	63.8	1.0 U	20.8	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/15/2017	5.0 U	3.1	0.4 J	60.2	1.0 U	32.4	5.0 U	1.0 U	0.7 J	1.0 U	1.0 U	1.0 U
	5/30/2018	1.0 U	2.2	1.0 U	49.2	1.0 U	23.4	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/7/2018	1.0 U	4.5	1.0 U	75.9	1.0 U	37.4	2.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U
	5/21/2019	1.0 U	3.6	1.0 U	70.8	1.0 U	32.8	5.0 U	1.0 U	1.2	1.0 U	1.0 U	1.0 U
	11/19/2019	1.0 U	2.6	1.0 U	48.7	1.0 U	24.4	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/13/2020	1.0 U	2.6	1.0 U	50.5	1.0 U	18.7	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/22/2020	1.0 U	2.5	1.0 U	56.4	1.0 U	25.7	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/9/2021	1.0 U	3.0	1.0 U	56.3	1.0 U	23.6	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/14/2021	1.0 U	2.5	1.0 U	53.3	1.0 U	22.6	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/2022	1.0 U	3.0	1.0 U	57.7	1.0 U	4.5	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/20/2022	1.0 U	1.9	1.0 U	35.7	1.0 U	7.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2023	1.0 U	1.9	1.0 U	36.0	1.0 U	4.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/2023	1.0 U	2.6	1.0 U	53.4	1.0 U	6.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/19/2024	1.0 U	2.9	1.0 U	60.7	1.0 U	3.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
11/11/2024	1.0 U	1.1	1.0 U	18.0	1.0 U	2.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
MW-16	12/8/2016	200 U	6,420	200 U	26,200	200 U	1,450	400 U	100 U	4,390	200 U	200 U	200 U
	5/2/2017	225	7,910	100 U	10,500	100 U	971	200 U	100 U	8,930	100 U	100 U	100 U
	11/15/2017	732	7,110	22	7,740	46	836	11	18.4	5,590	1.0 U	69	19
	5/30/2018	249	6,250	50 U	4,690	50 U	636	100 U	50 U	7,360	50.0 U	50 U	50 U
	11/7/2018	275	7,360	50 U	7,800	50 U	866	100 U	50 U	6,420	50.0 U	74.2	50 U
	5/22/2019	10 U	343	10 U	1,160	10 U	1,230	50 U	10 U	216	10.0 U	13.7	10.0 U
	11/19/2019	23.4	608	10 U	1,440	10 U	81.9	50 U	10 U	314	10.0 U	18.3	10.0 U
	5/13/2020	10.9	394	5.0 U	571	5.0 U	39.2	5.0 U	5.0 U	487	5.0 U	10.7	5.0 U
	11/22/2020	20.0 U	1,560	20 U	1,130	20 U	84.2	100 U	20 U	2,060	5.0 U	20.0 U	20.0 U
	5/9/2021	4.2	169	2.0 U	276	2.1	19.3	10 U	2.2	123	2.0 U	6.2	2.0 U
	11/14/2021	12.5 U	1,350	12.5 U	1,630	12.5 U	76.0	62.5 U	12.5 U	1,720	12.5 U	12.5 U	12.5 U
	6/26/2022	42.6	1,030	1.0 U	1,210	1.0 U	26.4	1.4	5.5	1,610	1.0 U	13.8	2.3
	11/20/2022	136.0	3,290	1.0 U	4,290	1.0 U	143.0	2.2	9.4	2,960	1.0 U	28.0	13.2
	5/21/2023	96.1	2,230	1.0 U	2,510	1.0 U	89.5	3.7	6.3	2,230	1.0 U	19.1	6.7
	12/3/2023	124.0	3,040	20.0 U	3,990	20.0 U	96.3	20.0 U	20.0 U	2,200	20.0 U	20.5	20 U
	5/19/2024	34.5	1,160	20.0 U	1,640	20.0 U	91.4	20.0 U	20.0 U	905	20.0 U	20.0 U	20 U
11/11/2024	35.4	1,030	20.0 U	1,490	20.0 U	88.1	20.0 U	20.0 U	767	20.0 U	20.0 U	20.0 U	

Appendix D - Table D-1

Historical Monitoring Well Sampling Results
Former Kop-Flex Facility Site
Hanover, Maryland
(December 2016 - November 2024) (a)

Well ID	Sample Date	Chloroethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	Tetrachloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl chloride
Groundwater Cleanup Standards (b)		2,100	2.8	5	7	70	15 (c)	5	5	200	5	5	2
MW-18	12/7/2016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/1/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/15/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	24.9	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/30/2018	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/7/2018	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2019	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/19/2019	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/12/2020	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/22/2020	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/9/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/14/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/20/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2023	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/2023	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/10/2024	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-20	12/9/2016	2.0 U	99.7	5.1	173	2.0 U	767	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	5/2/2017	2.0 U	161	7.3	286	2.0 U	967	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	11/15/2017	5.0 U	136	5.7	223	1.4	969	5.0 U	1.0 U	1.0 U	1.9	1.0 U	1.0 U
	5/30/2018	2.0 U	115	5.5	205	2.0 U	966	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	11/7/2018	2.5 U	145	6.3	233	2.5 U	986	5.0 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
	5/21/2019	2.0 U	157	6.5	226	2.0 U	1,620	10.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	11/19/2019	2.0 U	175	7.5	244	2.0 U	1,220	10.0 U	2.0 U	2.0 U	2.1	2.0 U	2.0 U
	5/13/2020	2.0 U	188	7.7	232	2.0 U	1,000	10.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	11/22/2020	2.0 U	205	7.5	272	2.0 U	1,260	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	5/9/2021	2.0 U	214	7.5	267	2.2	1,010	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	11/14/2021	2.0 U	256	8.7	321	2.0 U	1,210	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	6/26/2022	1.0 U	294	10.8	426	2.9	377	5.0 U	1.0 U	1.0 U	2.7	2.7	1.0 U
	11/20/2022	1.0 U	258	9.7	348	2.6	560	1.0 U	1.0 U	1.0 U	2.4	2.7	1.0 U
	5/21/2023	1.0 U	252	8.9	307	1.0 U	407	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/2023	5.0 U	432	13.1	631	5.0 U	404	5.0 U	5.0 U	5.0 U	5.0 U	5.9	1.0 U
	5/19/2024	5.0 U	386	12.6	560	5.0 U	396	5.0 U	5.0 U	5.0 U	5.0 U	5.1	1.0 U
11/11/2024	5.0 U	389	13.2	528	5.0 U	616	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	

Appendix D - Table D-1

Historical Monitoring Well Sampling Results
Former Kop-Flex Facility Site
Hanover, Maryland
(December 2016 - November 2024) (a)

Well ID	Sample Date	Chloroethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	Tetrachloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl chloride
Groundwater Cleanup Standards (b)		2,100	2.8	5	7	70	15 (c)	5	5	200	5	5	2
MW-38R	12/9/2016	1.0 U	3.8	1.0 U	1.0 U	1.0 U	18.3	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/1/2017	1.0 U	6.0	1.0 U	1.0 U	1.0 U	42.6	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/15/2017	5.0 U	8.3	1.0 U	1.0 U	1.0 U	62.5	8.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/30/2018	1.0 U	4.3	1.0 U	1.0 U	1.0 U	40.7	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/7/2018	1.0 U	6.9	1.0 U	1.0 U	1.0 U	39.4	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2019	1.0 U	4.7	1.0 U	1.0 U	1.0 U	43.2	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/19/2019	1.0 U	7.7	1.0 U	1.0 U	1.0 U	51.5	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/12/2020	1.0 U	6.2	1.0 U	1.0 U	1.0 U	40.8	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/22/2020	1.0 U	6.5	1.0 U	1.0 U	1.0 U	40.9	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/9/2021	1.0 U	5.5	1.0 U	1.0 U	1.0 U	47.0	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/19/2021	1.0 U	6.7	1.0 U	1.0 U	1.0 U	46.2	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/2022	1.0 U	7.6	1.0 U	1.0 U	1.0 U	14.4	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/20/2022	1.0 U	7.1	1.0 U	1.0 U	1.0 U	20.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2023	1.0 U	6.8	1.0 U	1.0 U	1.0 U	11.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/2023	1.0 U	4.2	1.0 U	1.0 U	1.0 U	18.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
11/10/2024	1.0 U	3.9	1.0 U	1.0 U	1.0 U	19.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
MW-39	12/7/2016	1.0 U	1.0 U	1.0 U	1.7	1.0 U	2.5	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/1/2017	1.0 U	1.0 U	1.0 U	1.1	1.0 U	3.0	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/15/2017	5.0 U	1.0 U	1.0 U	0.6 J	1.0 U	2.2	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/30/2018	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/7/2018	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2019	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/19/2019	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/12/2020	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/22/2020	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/9/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/14/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.22	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/20/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2023	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/21/2023	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
6/12/2024	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
11/10/2024	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	

Appendix D - Table D-1

Historical Monitoring Well Sampling Results
Former Kop-Flex Facility Site
Hanover, Maryland
(December 2016 - November 2024) (a)

Well ID	Sample Date	Chloroethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	Tetrachloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl chloride
Groundwater Cleanup Standards (b)		2,100	2.8	5	7	70	15 (c)	5	5	200	5	5	2
MW-42	12/7/2016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	4.8	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/1/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	8.0	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/15/2017	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	19.3	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/30/2018	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	7.4	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/7/2018	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10.3	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2019	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10.6	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/19/2019	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.6	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/12/2020	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	11.2	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1/6/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	13.2	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/9/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	13.3	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/14/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	12.5	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	7/15/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/20/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2023	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2023	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	4.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/19/2024	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
11/10/2024	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
MW-43	12/7/2016	2.0 U	15.9	2.1	171	2.0 U	237	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	5/1/2017	2.0 U	21.3	2.1	177	2.0 U	206	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	11/15/2017	5.0 U	15.9	1.3	159	1.0 U	165	5.0 U	1.0 U	1.2	1.0 U	1.0 U	1.0 U
	5/30/2018	2.0 U	5.9	1.0 U	68	1.0 U	57.6	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/7/2018	1.0 U	13.8	1.2	118	1.0 U	107	2.0 U	1.0 U	1.0 U	1.0 U	1.3	1.0 U
	5/21/2019	1.0 U	5.2	1.0 U	53.9	1.0 U	52.0	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/19/2019	1.0 U	4.3	1.0 U	48.5	1.0 U	55.2	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/12/2020	1.0 U	3.8	1.0 U	46.3	1.0 U	49.0	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/22/2020	1.0 U	2.9	1.0 U	31.8	1.0 U	42.7	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/9/2021	1.0 U	2.7	1.0 U	31.7	1.0 U	34.1	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/14/2021	1.0 U	2.6	1.0 U	31.3	1.0 U	34.3	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/2022	1.0 U	2.5	1.0 U	29.4	1.0 U	7.0	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/20/2022	1.0 U	1.7	1.0 U	20.3	1.0 U	9.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2023	1.0 U	1.6	1.0 U	21.2	1.0 U	9.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/2023	1.0 U	1.6	1.0 U	19.9	1.0 U	8.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/19/2024	1.0 U	1.5	1.0 U	17.3	1.0 U	6.3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
11/10/2024	1.0 U	1.3	1.0 U	15.2	1.0 U	9.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	

Appendix D - Table D-1

Historical Monitoring Well Sampling Results
Former Kop-Flex Facility Site
Hanover, Maryland
(December 2016 - November 2024) (a)

Well ID	Sample Date	Chloroethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	Tetrachloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl chloride
Groundwater Cleanup Standards (b)		2,100	2.8	5	7	70	15 (c)	5	5	200	5	5	2
MW-44	12/7/2016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/1/2017	1.0 U	6.6	1.0 U	5.9	1.0 U	49.1	2.0 U	1.0 U	27.7	1.0 U	1.0 U	1.0 U
	5/30/2018	1.0 U	1.4	1.0 U	1.4	1.0 U	8.4	2.0 U	1.0 U	4.9	1.0 U	1.0 U	1.0 U
	5/21/2019	1.0 U	14.9	1.0 U	22.4	1.0 U	64.4	5.0 U	1.0 U	74.3	1.0 U	1.0 U	1.0 U
	5/13/2020	1.0 U	3.0	1.0 U	4.1	1.0 U	17.7	5.0 U	1.0 U	11.9	1.0 U	1.0 U	1.0 U
	5/9/2021	1.0 U	1.7	1.0 U	2.9	1.0 U	10.2	5.0 U	1.0 U	6.9	1.0 U	1.0 U	1.0 U
	11/14/2021	1.0 U	3.8	1.0 U	7.2	1.0 U	13.3	5.0 U	1.0 U	15.4	1.0 U	1.0 U	1.0 U
	6/26/2022	1.0 U	2.3	1.0 U	3.2	1.0 U	2.5	5.0 U	1.0 U	5.9	1.0 U	1.0 U	1.0 U
	11/20/2022	1.0 U	2.4	1.0 U	3.9	1.0 U	4.2	1.0 U	1.0 U	8.0	1.0 U	1.0 U	1.0 U
	5/21/2023	1.0 U	1.2	1.0 U	1.9	1.0 U	1.9	1.0 U	1.0 U	2.6	1.0 U	1.0 U	1.0 U
	12/3/2023	1.0 U	1.6	1.0 U	6.8	1.0 U	2.6	1.0 U	1.0 U	9.4	1.0 U	1.0 U	1.0 U
	5/19/2024	1.0 U	3.3	1.0 U	5.0	1.0 U	1.9	1.0 U	1.0 U	5.8	1.0 U	1.0 U	1.0 U
	11/10/2024	1.0 U	1.6	1.0 U	2.0	1.0 U	2.8	1.0 U	1.0 U	2.0	1.0 U	1.0 U	1.0 U
MW-1D	1/2/2017	2.0 U	72	4.7	375	2.0 U	236	4.0 U	2.5 U	37.5	2.0 U	2.0 U	2.0 U
	5/3/2017	2.5 U	105	5.7	407	2.5 U	329	5.0 U	2.5 U	37.1	2.5 U	2.5 U	2.5 U
	11/15/2017	5.0 U	80	3.8	277	0.6 J	243	5.0 U	0.519 J	29.8	0.8 J	1.7	1 U
	5/30/2018	1.0 U	14.9	1.0 U	71.4	1.0 U	64.4	2.0 U	1.0 U	5.3	1.0 U	1.0 U	1.0 U
	11/7/2018	1.0 U	7.1	1.0 U	38.8	1.0 U	2.0 U	2.0 U	1.0 U	3.3	1.0 U	1.0 U	1.0 U
	5/21/2019	1.0 U	2.1	1.0 U	13.7	1.0 U	12.8	5.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U
	11/19/2019	1.0 U	3.4	1.0 U	17.7	1.0 U	17.9	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/18/2020	1.0 U	2.6	1.0 U	16.5	1.0 U	12.8	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Appendix D - Table D-1

Historical Monitoring Well Sampling Results
Former Kop-Flex Facility Site
Hanover, Maryland
(December 2016 - November 2024) (a)

Well ID	Sample Date	Chloroethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	Tetrachloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl chloride	
Groundwater Cleanup Standards (b)		2,100	2.8	5	7	70	15 (c)	5	5	200	5	5	2	
MW-1D	11/22/2020	1.0 U	3.1	1.0 U	17.6	1.0 U	16.9	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	5/9/2021	1.0 U	1.8	1.0 U	12.2	1.0 U	9.0	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	11/14/2021	1.0 U	3.8	1.0 U	22.4	1.0 U	16.5	5.0 U	1.0 U	1.5	1.0 U	1.0 U	1.0 U	
	6/26/2022	1.0 U	3.1	1.0 U	19.1	1.0 U	4.0	5.0 U	1.0 U	1.3	1.0 U	1.0 U	1.0 U	
	11/20/2022	1.0 U	3.0	1.0 U	16.8	1.0 U	6.8	1.0 U	1.0 U	1.0	1.0 U	1.0 U	1.0 U	
	5/21/2023	1.0 U	1.8	1.0 U	11.1	1.0 U	4.0	1.0 U	1.0 U	1.0	1.0 U	1.0 U	1.0 U	
	12/3/2023	1.0 U	3.8	1.0 U	21.3	1.0 U	6.5	1.0 U	1.0 U	1.0	1.0 U	1.0 U	1.0 U	
	5/19/2024	1.0 U	2.4	1.0 U	17.1	1.0 U	3.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	11/11/2024	1.0 U	2.9	1.0 U	15.6	1.0 U	6.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
MW-16D	12/8/2016	2.0 U	56.6	2.9	254	2.0 U	202	4.0 U	2.0 U	21	2.0 U	2.0 U	2.0 U	
	5/2/2017	2.0 U	43.7	2.9	235	2.0 U	182	4.0 U	2.0 U	16.4	2.0 U	2.0 U	2.0 U	
	11/15/2017	5.0 U	29.7	1.9	179	0.3 J	192	10.0	1.0 U	15.1	0.5 J	0.9 J	1.0 U	
	5/30/2018	1.0 U	26.4	1.6	180	1.0 U	153	2.0 U	1.0 U	10.3	1.0 U	1.0 U	1.0 U	
	11/7/2018	1.0 U	27.5	1.8	161	1.0 U	158	2.0 U	1.0 U	12.5	1.0 U	1.0 U	1.0 U	
	5/22/2019	1.0 U	28.5	2.1	172	1.0 U	148	5.0 U	1.0 U	14.5	1.0 U	1.0 U	1.0 U	
	11/19/2019	1.0 U	25.6	1.7	133	1.0 U	140	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	5/13/2020	1.0 U	29.1	1.9	145	1.0 U	130	5.0 U	1.0 U	11.7	1.0 U	1.0 U	1.0 U	
	12/8/2020	1.0 U	25.9	1.6	127	1.0 U	105	5.0 U	1.0 U	10.1	1.0 U	1.0 U	1.0 U	
	5/9/2021	1.0 U	27.7	1.7	130	1.0 U	107	5.0 U	1.0 U	9.5	1.0 U	1.0 U	1.0 U	
	11/14/2021	1.0 U	21.5	1.1	98.7	1.0 U	84.5	5.0 U	1.0 U	6.9	1.0 U	1.0 U	1.0 U	
	7/15/2022	1.0 U	27.4	1.7	136.0	1.0 U	39.2	1.0 U	1.0 U	8.3	1.0 U	1.0 U	1.0 U	
	12/29/2022	1.0 U	16.4	1.0 U	80.1	1.0 U	29.9	5.0 U	1.0 U	4.7	1.0 U	1.0 U	1.0 U	
	5/21/2023	1.0 U	24.8	1.4	111.0	1.0 U	36.1	1.0 U	1.0 U	6.5	1.0 U	1.0 U	1.0 U	
	<i>Duplicate</i>	5/21/2023	1.0 U	24.9	1.4	110.0	1.0 U	21.3	1.0 U	1.0 U	6.7	1.0 U	1.0 U	1.0 U
		12/3/2023	1.0 U	21.8	1.4	103.0	1.0 U	34.5	1.0 U	1.0 U	5.2	1.0 U	1.0 U	1.0 U
	<i>Duplicate</i>	12/3/2023	1.0 U	19.7	1.0 U	98.3	1.0 U	27.0	1.0 U	1.0 U	4.7	1.0 U	1.0 U	1.0 U
		5/19/2024	1.0 U	20.5	1.1	96.6	1.0 U	18.7	1.0 U	1.0 U	4.5	1.0 U	1.0 U	1.0 U
	<i>Duplicate</i>	5/19/2024	1.0 U	20.7	1.1	96.6	1.0 U	19.1	1.0 U	1.0 U	4.4	1.0 U	1.0 U	1.0 U
		11/11/2024	1.0 U	16.8	1.0 U	68.2	1.0 U	21.6	1.0 U	1.0 U	3.5	1.0 U	1.0 U	1.0 U
<i>Duplicate</i>	11/10/2024	1.0 U	15.0	1.0 U	58.8	1.0 U	24.8	1.0 U	1.0 U	3.2	1.0 U	1.0 U	1.0 U	

Appendix D - Table D-1

Historical Monitoring Well Sampling Results
Former Kop-Flex Facility Site
Hanover, Maryland
(December 2016 - November 2024) (a)

Well ID	Sample Date	Chloroethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	Tetrachloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl chloride
Groundwater Cleanup Standards (b)		2,100	2.8	5	7	70	15 (c)	5	5	200	5	5	2
MW-21D	12/16/2016	1.0 U	2.6	1.0 U	23.4	1.0 U	18.6	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/1/2017	1.0 U	6.9	1.4	111	1.0 U	57.5	2.0 U	1.0 U	2.3	1.0 U	1.0 U	1.0 U
	11/15/2017	5.0 U	2.0	1.0 U	14.4	1.0 U	18.5	5.0 U	1.0 U	0.7 J	1.0 U	1.0 U	1.0 U
	5/30/2018	1.0 U	1.0	1.0 U	38.8	1.0 U	32.2	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/7/2018	1.0 U	1.0 U	1.0 U	30.0	1.0 U	18.0	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2019	1.0 U	1.0 U	1.0 U	9.9	1.0 U	8.4	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/19/2019	1.0 U	1.0 U	1.0 U	4.1	1.0 U	4.1	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/18/2020	1.0 U	1.0 U	1.0 U	13.6	1.0 U	7.6	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/22/2020	1.0 U	1.0 U	1.0 U	7.8	1.0 U	5.1	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/9/2021	1.0 U	1.0 U	1.0 U	4.1	1.0 U	2.8	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/14/2021	1.0 U	1.0 U	1.0 U	18.7	1.0 U	12.9	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/2022	1.0 U	1.0 U	1.0 U	24.5	1.0 U	4.2	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/20/2022	1.0 U	1.0 U	1.0 U	17.6	1.0 U	5.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2023	1.0 U	1.0 U	1.0 U	26.1	1.0 U	7.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/2023	1.0 U	1.0 U	1.0 U	30.8	1.0 U	7.7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
5/19/2024	1.0 U	1.0 U	1.0 U	6.3	1.0 U	4.3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
11/10/2024	1.0 U	1.0 U	1.0 U	19.8	1.0 U	7.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	

Appendix D - Table D-1

Historical Monitoring Well Sampling Results
Former Kop-Flex Facility Site
Hanover, Maryland
(December 2016 - November 2024) (a)

Well ID	Sample Date	Chloroethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	Tetrachloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl chloride
Groundwater Cleanup Standards (b)		2,100	2.8	5	7	70	15 (c)	5	5	200	5	5	2
MW-22D	12/7/2016	1.0 U	2.5	1.0 U	31.5	1.0 U	24.5	2.0 U	1.0 U	4.1	1.0 U	1.0 U	1.0 U
	5/2/2017	1.0 U	2.5	1.0 U	36.9	1.0 U	24.6	2.0 U	1.0 U	3.7	1.0 U	1.0 U	1.0 U
	11/15/2017	5.0 U	1.72	1.0 U	24.4	1.0 U	19.6	5.0 U	1.0 U	2.8	1.0 U	1.0 U	1.0 U
	5/30/2018	1.0 U	1.0 U	1.0 U	13.1	1.0 U	7.9	2.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U
	11/7/2018	1.0 U	1.0 U	1.0 U	9.7	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2019	1.0 U	1.0 U	1.0 U	6.3	1.0 U	5.1	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/19/2019	1.0 U	1.0 U	1.0 U	5.6	1.0 U	4.9	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/18/2020	1.0 U	1.0 U	1.0 U	6.2	1.0 U	4.6	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/22/2020	1.0 U	1.0 U	1.0 U	7.1	1.0 U	4.9	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/9/2021	1.0 U	1.0 U	1.0 U	5.9	1.0 U	4.0	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/14/2021	1.0 U	1.0 U	1.0 U	6.2	1.0 U	5.2	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/2022	1.0 U	1.0 U	1.0 U	9.0	1.0 U	1.6	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/20/2022	1.0 U	1.0 U	1.0 U	6.1	1.0 U	2.7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2023	1.0 U	1.0 U	1.0 U	8.4	1.0 U	3.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/2023	1.0 U	1.0 U	1.0 U	8.5	1.0 U	2.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/19/2024	1.0 U	1.0 U	1.0 U	5.5	1.0 U	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
11/11/2024	1.0 U	1.0 U	1.0 U	10.8	1.0 U	3.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
MW-23D	1/2/2017	2.0 U	26.4	2.0 U	140	2.0 U	151	8.3	1.0 U	17.0	2.0 U	2.0 U	2.0 U
	5/1/2017	2.0 U	39.1	2.4	208	2.0 U	177	4.0 U	2.0 U	19.9	2.0 U	2.0 U	2.0 U
	11/15/2017	5.0 U	31.1	1.9	179	0.3 J	158	5.0 U	0.417 J	19.3	0.4 J	0.9 J	1.0 U
	5/30/2018	1.0 U	30.5	1.6	172	1.0 U	148	2.0 U	1.0 U	14.8	1.0 U	1.0 U	1.0 U
	11/7/2018	1.0 U	36.2	1.9	185	1.0 U	146	2.0 U	1.0 U	17.0	1.0 U	1.0 U	1.0 U
	5/21/2019	1.0 U	18.5	1.2	96.4	1.0 U	70.7	5.0 U	1.0 U	8.6	1.0 U	1.0 U	1.0 U
	11/19/2019	1.0 U	22.7	1.4	107	1.0 U	109	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/13/2020	1.0 U	35.2	1.8	142	1.0 U	112	5.0 U	1.0 U	13.6	1.0 U	1.0 U	1.0 U
	11/22/2020	1.0 U	26.3	1.2	106	1.0 U	96.7	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/9/2021	1.0 U	31.8	1.5	126	1.0 U	99.0	5.0 U	1.0 U	11.7	1.0 U	1.0 U	1.0 U
	11/14/2021	1.0 U	28.5	1.1	110	1.0 U	92.4	5.0 U	1.0 U	9.2	1.0 U	1.0 U	1.0 U
	6/26/2022	1.0 U	34.6	1.5	138	1.0 U	27.0	5.0 U	1.0 U	10.7	1.0 U	1.0 U	1.0 U
	11/20/2022	1.0 U	33.6	1.7	140	1.0 U	59.6	1.0 U	1.0 U	9.7	1.0 U	1.0 U	1.0 U
5/21/2023	1.0 U	32.4	1.4	116	1.0 U	27.0	1.0 U	1.0 U	8.3	1.0 U	1.0 U	1.0 U	

Appendix D - Table D-1

Historical Monitoring Well Sampling Results
Former Kop-Flex Facility Site
Hanover, Maryland
(December 2016 - November 2024) (a)

Well ID	Sample Date	Chloroethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	Tetrachloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl chloride	
Groundwater Cleanup Standards (b)		2,100	2.8	5	7	70	15 (c)	5	5	200	5	5	2	
MW-23D	12/3/2023	1.0 U	41.2	1.4	177	1.0 U	56.1	1.0 U	1.0 U	9.3	1.0 U	1.0 U	1.0 U	
	5/19/2024	1.0 U	32.7	1.4	134	1.0 U	24.2	1.0 U	1.0 U	6.9	1.0 U	1.0 U	1.0 U	
	11/11/2024	1.0 U	20.1	1.0 U	77.6	1.0 U	34.1	1.0 U	1.0 U	4.6	1.0 U	1.0 U	1.0 U	
MW-27D	12/7/2016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	5/1/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.6	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	5/30/2018	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	5/21/2019	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	5/13/2020	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	5/9/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	11/14/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	6/26/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.13	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/20/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/2023	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/10/2024	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-40D	12/9/2016	1.0 U	2.9	1.0 U	18.1	1.0 U	9.4	2.0 U		1.0 U	1.0 U	1.0 U	1.0 U	
	5/1/2017	1.0 U	3.1	1.0 U	17.4	1.0 U	8.5	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	11/15/2017	5.0 U	0.9 J	1.0 U	5.2	1.0 U	5.2	9.7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	5/30/2018	1.0 U	1.0 U	1.0 U	2.9	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	11/7/2018	1.0 U	1.0 U	1.0 U	4.4	1.0 U	2.7	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	5/21/2019	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	11/19/2019	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	5/18/2020	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	11/22/2020	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	5/9/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	11/14/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	6/26/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.18	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	11/20/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	5/21/2023	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
	12/3/2023	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
11/10/2024	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		

Appendix D - Table D-1

**Historical Monitoring Well Sampling Results
Former Kop-Flex Facility Site
Hanover, Maryland
(December 2016 - November 2024) (a)**

Well ID	Sample Date	Chloroethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	Tetrachloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl chloride
Groundwater Cleanup Standards (b)		2,100	2.8	5	7	70	15 (c)	5	5	200	5	5	2
MW-41D	12/16/2016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.8	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/17/2017	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.4	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/30/2018	1.0 U	1.0 U	1.0 U	1.1	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/21/2019	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.1	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/18/2020	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	5/9/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/14/2021	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	6/26/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.62	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/20/2022	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	12/3/2023	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	11/10/2024	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

a/ U = not detected above the method detection limit

Bolded values indicate an exceedence of the Groundwater Quality Standards

All sample concentrations in micrograms per liter (µg/l)

b/ All cleanup standards, except for 1,4-dioxane, are equal to the Maryland Generic Numeric Cleanup Standards for Groundwater, Type I and II Aquifers, from the State of Maryland Interim Final Guidance (October 2018). Accessed May 27, 2020:

<https://mde.maryland.gov/programs/LAND/MarylandBrownfieldVCP/Documents/www.mde.state.md.us/assets/document/MDE%20Soil%20and%20Groundwater%20Cleanup%20Standards%202010-2018%20Interim%20Final%20Update%203-2.pdf>

c/ Numeric cleanup standards from WSP's October 2, 2015, Response Action Plan, Revision 2.